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BLUE JAY

March 1996



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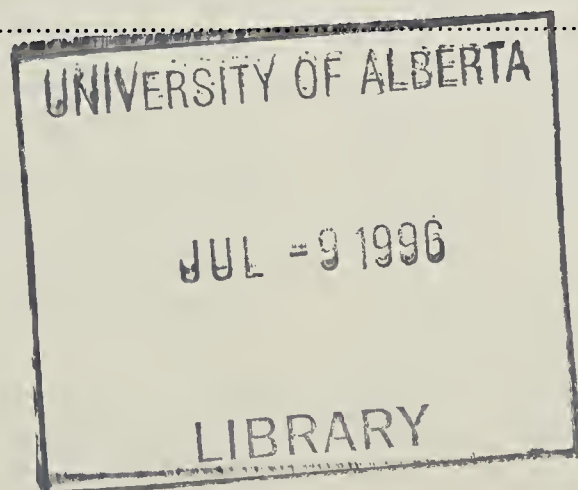
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PRAIRIE NEST RECORD SCHEME

The number of contributors to the Prairie Nest Record Scheme has been decreasing the last few years. To some extent this is due to persons retiring or moving to other provinces, fewer grants to researchers, and illness. No cards have been received the last two years from the Northwest Territories. Additional participants are required!

The Prairie Nest Record Scheme is a valuable source of information for government and research biologists, students, consultants, authors, etc. Persons interested in taking part in this project to locate and record the progress of nesting birds, please write for nest record cards and instructions to:

H.W.R. Copland
Coordinator - PNRS
Manitoba Museum of Man and Nature
190 Rupert Avenue
Winnipeg, MB R3B 0N2

THE MOREL FUNGUS IN SOUTHERN SASKATCHEWAN

H.E. MANN, Biology Department, Sir Wilfred Grenfell College, Memorial University of Newfoundland, Corner Brook, NF. A2H 6P9 and M.V.S. RAJU, Department of Biology, University of Regina, Regina, SK. S4S 0A2

It is seldom that reports or photographs of fungi appear in the *Blue Jay* and yet this is a subject that can become a fascinating study.⁷ Indeed, it is fascinating to have some knowledge of the fungi which is perhaps one of the most important groups involved in the process of biological recycling. Unfortunately, in these times of fast progressing modern biotechnology, very few individuals are interested in the biology and field identification of fungi. Furthermore, the science of mycology (study of fungi) itself is a very neglected field in the undergraduate curriculum of most universities.

The morels are often, for the purpose of convenience, recognized as mushrooms.^{2,5} True mushrooms belong to a group known as *Basidiomycotina*, whose fruiting bodies are called basidiocarps which produce basidia and basidiospores. In contrast, the morels belong to a completely different group known as *Ascomycotina*, whose fruiting bodies are the ascocarps that produce asci and ascospores. Some references are provided in the literature cited which give a good overview of the general morphology and reproduction of mushrooms, morels and other fungi.

True morels (*Morchella* species) are found all over the world, but their abundance is especially obvious in

the temperate regions of the northern hemisphere. They are all basically saprophytic (depend on organic debris for growth and development) and the fruiting bodies occur singly or in clusters in a variety of habitats. Pratt⁷ has reported their occurrence in the northern woodlands of Saskatchewan where abundant organic debris and moisture are available. In southern Saskatchewan they are most commonly found associated with the poplar-spruce-pine tree woods where an abundant ground cover of litter is present. They also occur in exposed areas in sandy soil as long as there is ample moisture and humus (Fig. 1 a, b). Abundant occurrence of morels in the prairies is seen early in spring (April to May) in aspen woodlands and in open prairies. However, their occurrence in the open prairies is rare and less abundant. Occasionally, they may appear in places where snow is melting early in spring around aspen woodlands in the Strawberry Lakes area. They may also occur sporadically in summer after rain in woods and in areas rich in organic debris, on the open prairies of southern Saskatchewan.

The morels can be identified easily by their characteristic mature reproductive structure called the fruiting body or, more technically, the ascocarp. The fruiting body consists of

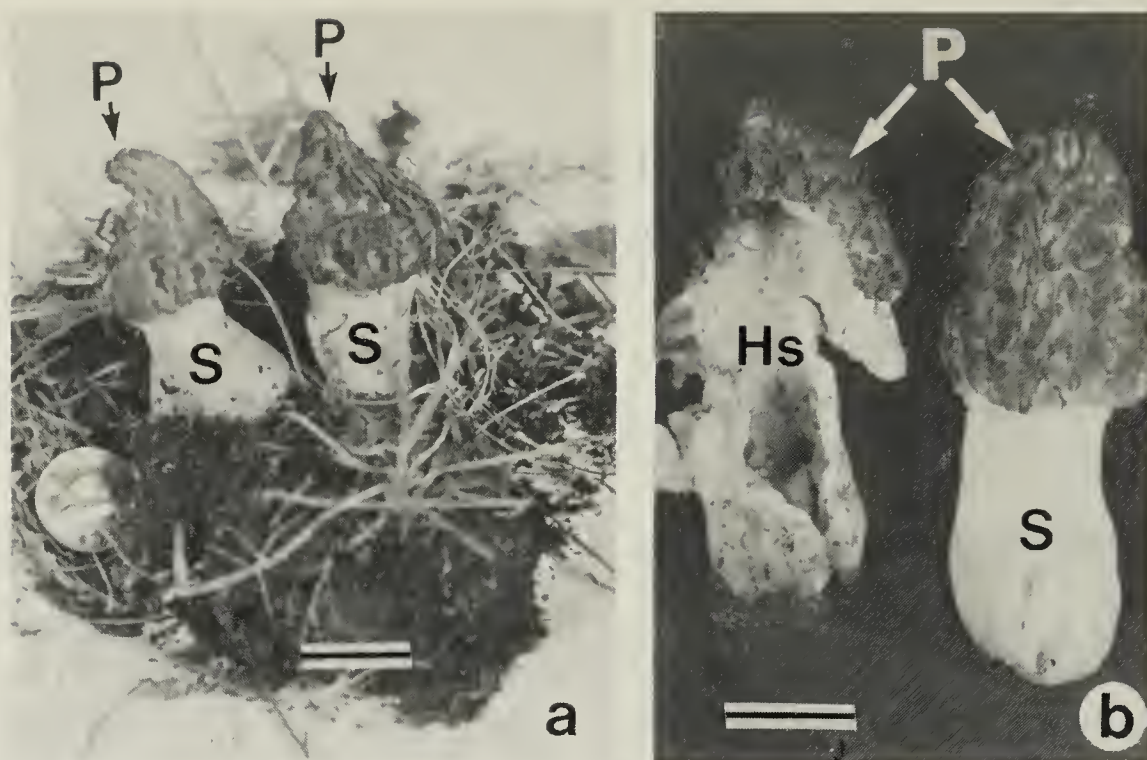


Figure 1a. *Morchella esculenta* in a grassland area in the Cypress Hills of southern Saskatchewan. Bar = 2.0 cm.

Figure 1b. *Morchella esculenta* growing in poplar woods near Strawberry Lakes. Note the hollow stipe in one. Bar = 2.0 cm.

(Abbreviations in figures: **A**, ascus; **As**, ascospores; **H**, hymenium or fertile layer containing hyphae, asci and paraphyses; **Hs**, hollow stipe or stalk; **P**, pileus or cap; **Pa**, paraphyses or hairs; **Pi**, pits or depressions; **R**, ridges or elevated borders of pits; **S**, stipe or stalk).

two parts, the yellowish or brownish pileus (cap) and the supporting whitish long to short stalk or stipe (Figs. 1 a, b; 2 a). The shape of the entire reproductive structure with its pileus and stalk varies considerably, with the general construction or structure of it being about the same in all. In most instances the pileus appears as a conical structure with a distal pointed or blunt top. The stalk or stipe that bears the pileus at its distal end may vary in thickness and length. Ordinarily, the pileus, throughout its length, is internally fused with the stalk (Fig. 2 b). The stipe, short or long, remains hollow (Fig. 2 b). In some morels only about a third of the distal part or sometimes much less, of the pileus, is intimately associated or fused with the stalk and the rest of it is free from it (Fig. 2 i, j).

Externally the pileus shows char-

acteristic ridges and furrows or pits (Figs. 1 a, b; 2 a). The ridges are usually irregular and consequently the pits also appear irregular. In some cases the pits are large and may elongate longitudinally, a feature which is important in the identification of morels (Fig. 2 d-h). The ridges may vary in colour from yellowish white to dark brown. The pits are usually darker than the ridges. Thin sections of the cap with pits, when examined in the microscope, show characteristic invaginations (Fig. 2 k, l). The inner surface of the invagination is lined with a differentiated region called the hymenium or the fertile layer (Fig. 2 k, l). The hymenium is made up of densely packed filamentous mycelia from which develop two modified cell types. The first cell type is the elongated club-shaped sac or ascus (asci, plural), enclosing the spores,

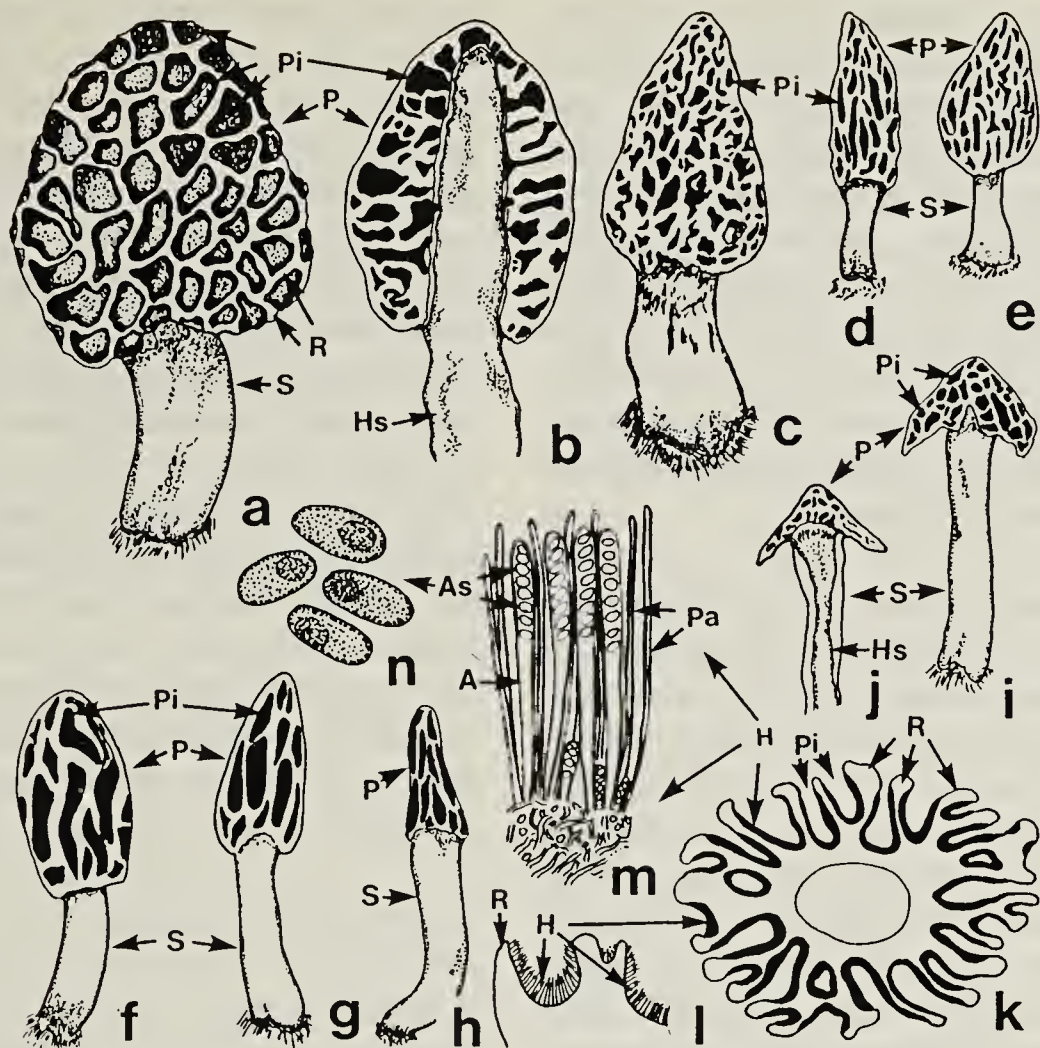


Figure 2a. Diagram of *M. esculenta* collected from poplar-pine woods, showing pileus (cap), stalk, pits and ridges in the cap. x 1/2.

Figure 2b. *M. esculenta* long section of the fruiting body to show the hollow stipe and the attachment of cap to the stalk. x 1/2.

Figure 2c. *M. esculenta* collected from open grassland (sandy soil with organic debris) in the Cypress Hills. The pileus is somewhat conical with a blunt tip. x 1/2.

Figure 2d,e. *M. deliciosa*, collected from poplar woods in the Cypress Hills. Note somewhat vertically elongated pits. x 1/3.

Figure 2f-h. *M. elata*, collected in the fall from poplar-pine logged woods in the Cypress Hills. They were growing between dead logs on thick humus and sandy soil. Note the elongated pits in the cap. It is morphologically a highly variable species. x 1/2.

Figure 2i,j. *M. semilibera*, collected from disturbed areas of a tree-logged habitat in the Cypress Hills. Note the short cap and a hollow stipe in long section in j. Only a small upper part of the cap is fused with the stalk. Note the flared out margins of the cap. x 1/2.

Figure 2k. *M. esculenta*, Diagrammatic cross section of the cap to show the central hollow stipe surrounded by irregular depressions or pits and ridges. The dark region in the invaginations is the hymenium. x 1.

Figure 2l. *M. esculenta*, diagram of a part of the cap enlarged to show the ridges and pits. The slashed area in the pits between ridges is the hymenium or the fertile layer. x 100.

Figure 2m. *M. esculenta*, enlarged diagram of the hymenium showing asci with ascospores and the sterile elongated unicellular hairs or paraphyses. In each mature ascus there are 8 ascospores developed. x 400.

Figure 2n. *M. esculenta*, highly enlarged diagram of oval white ascospores. x 600.

which are called the ascospores (Fig. 2 m). The second cell type includes a large thin elongated tubular cell called the paraphyses (paraphysis, singular), developed from the mycelia, which lie between the asci and they do not contain spores (Fig. 2 m). The asci, by an interesting and complicated mechanism dealing with turgidity in relation to the environmental conditions, expel the oval ascospores, the basic asexual reproductive units (Fig. 2 n).

The ascospores, under favourable growth conditions, can germinate and produce dense masses of filamentous mycelia which usually remain below the soil, occasionally associated with roots of other plants. Eventually, they produce the fruiting bodies or ascocarps. Alternatively they may remain dormant or overwinter and germinate in the following spring to produce large tangles of mycelia from which emerge the ascocarps or the fruiting bodies. More details of these morels can be found in some books on fungi.^{1,4}

Studies were conducted on morels found in the eastern part of the Cypress Hills and in the Strawberry Lakes area in southern Saskatchewan. Many morphologically variable forms of morels, all belonging to the genus *Morchella*, were examined. In accordance with the morphological details provided by Arora,² they were relegated to four identifiable species. Some salient morphological details of the four species are given below.

Morchella esculenta (Common or Yellow Morel: Figs. 1 a, b; 2 a-c). The cap of the fruiting body may vary from round to oval, distally conical, blunt or irregular. It is quite variable in length or height (25-74 mm) and width (15-64 mm). The shape of pits may vary from irregular (not ar-

ranged in well-defined rows) to regular. Pits are small or sometimes large. Colour of pits may range from yellowish to brown or tan. Ridges around pits are normally narrow. The margin of the cap is fused with the stalk. The stalk is thick (20-40 mm) and long or high (22-55 mm), and it is hollow (Figs. 1 b; 2 b); its colour may vary from white to buff. The adult form occurs singly or in groups of two to four individuals, relatively more abundant than other species except *M. deliciosa*. The species can be seen in the leaf litter of pine and spruce forests from April to June in the Cypress Hills and in the aspen woods near Strawberry Lakes. It seems to prefer moist sandy soil along the edges of woods.

Morchella deliciosa (White Morel: Fig. 2 d, e). Cap of the fruiting body is round to oval or conical. Colour of the cap may be dark gray, dark brown, grayish tan or brown (colour may also change with age, usually darker when young and paler after). Its margin is attached to the stalk. The cap is 40-50 mm long or high and 20-28 mm thick or wide. The large pits are somewhat vertically elongated, not always arranged in rows. Pits and ridges show about the same colour. The stalk may be thicker (never thicker than the cap) below and thinner above. The stalk is 8-24 mm long and 8-22 mm wide, and it is hollow. This species occurs in the Cypress Hills and also in the Strawberry Lakes area. It seems to prefer sandy soil with considerable moisture and organic matter. In the pine-spruce-aspen woods, it occurs singly or in small clusters (2-3), especially in leaf litter from late April to early June. When abundant moisture is present in the soil and litter, this species seems to be most common.

Morchella elata (Black Morel: Fig. 2

f-h). The cap is conical, oval, narrow or somewhat irregular in shape. Colour of the cap may vary, usually the old fruiting bodies are dark brown. The margin of the cap is attached to the stalk. The cap is 20-50 mm long and 10-35 mm wide. The pits are vertically elongated (placed somewhat in longitudinal rows), and their colour is yellow-brown to dark-brown or rarely reddish brown. The stalk is hollow. It is 20-40 mm long and 10-20 mm wide. This species occurs in spruce-pine-poplar woods in the Cypress Hills and along their moist edges. It is rather rare in the Strawberry Lakes area. Occasionally, it is found singly or in clusters (2-3) in and around aspen groves. Adult forms of the species can be found in both areas from May to June.

Morchella semilibera (Half-free Morel: Fig. 2 i, j). The cap of the fruiting body is bluntly conical to round or oval when young, usually conical when aged. The cap is 14-18 mm long and 25-28 mm wide. Margin of the cap is distinctly free from the stalk or stipe (unlike other species), often flared outward. Pits may be large and elongated when mature. Ridges are usually vertically oriented. Colour of the cap may vary from yellowish brown to brown or grayish brown. Colour of pits vary from yellowish brown to brown. The stalk is hollow and it measures 25-60 mm long and 10-20 mm thick. This species occurs scattered singly or in small clusters of two to five individuals in aspen woods or in moist sandy loam. It is found in both the Cypress Hills and around Strawberry Lakes.

Edibility Like some mushrooms, the morels are edible but arguably more delicious and nutritious. Most of the fresh weight of the morels, like the mushrooms, is water (about 80-90%) and the remaining mostly proteins

and amino acids, minerals and small amounts of carbohydrates.^{2,6} The morels are considered prized delicacies, as much as truffles, but unlike the common mushrooms their availability is seasonal. They occur in relatively greater abundance only early in spring (April-May). The morels are much tastier and better flavoured than the more extensively cultivated button mushroom (*Agaricus*). Unfortunately, the efforts to cultivate morels commercially have so far been in vain.³ The morels in the wild are known to develop and mature or age more slowly than many mushrooms and they are known to last for a period of up to three to four weeks.² However, in many parts of southern Saskatchewan, especially in the eastern Cypress Hills and around the Strawberry Lakes, the presently reported species last for two to three weeks. They can be collected early in spring (April-May) or rarely in June. Often, since the stalk or stipe is hollow, the morel fungus may harbour some unwanted worms, slugs or other small organisms or dirt and sand. They can be cleaned, hung on a string for sun-drying, and then stored in airtight jars.² They can also be dried under a warm light bulb. Freezing is also a good way to preserve morels. However, they may decompose soon after they thaw out. To avoid this, they can be cleaned and sauteed before freezing.

Eating raw morels, most of which are reported to be not poisonous, is known to cause some digestive discomfort, especially when taken in large amounts.² It is always advisable to wash and cook them before eating. Morels can be sauteed or served on toast or in soup. As the stipe is hollow, the morels can be split lengthwise and stuffed with cheese, rice, etc. (larger specimens are preferred for stuffing). The mo-

rels, fresh or dry, can also be spiced, pan-fried and served on toast or rice. All four species described herein are good to eat, *M. esculenta* being excellent.

1. ALEXOPOULOS, C.J. and C.W. MISS. 1979. Introductory mycology. Red edition. John Wiley and Sons, New York.
2. ARORA, D. 1986. Mushrooms demystified. Ten Speed Press, Berkeley, California, USA.
3. GRAY, W.D. 1973. The use of fungi as food and in food processing, Part II. CRC Press, The Chemical Rubber Company, Cleveland, Ohio, USA.

4. KENDRICK, B. 1992. The fifth kingdom. 2nd ed. Focus Information Corporation Incorporated, Newburyport, Massachusetts, USA.
5. PACIONI, G. 1981. Guide to mushrooms. Simon and Schuster, New York.
6. PATHAK, N.C. 1986. Utilization of natural mushrooms flora. Pp. 43-57, in Beneficial fungi and their utilization (M.C. Nair and S. Balakrishnan, eds.). Scientific Publishers, Jodhpur, India.
7. PRATT, C.B. 1967. Are you interested in mushrooms? *Blue Jay* 25:81-82.



Finally, the question of central interest is how much of the world's biodiversity we can expect to carry with us out of the bottleneck fifty or a hundred years hence. Let me venture a guess. If the biodiversity crisis remains largely ignored and natural habitats continue to decline, we will lose at least one quarter of the earth's species. If we respond with the knowledge and technology already possessed, we may hold the loss to 10 percent. At first glance the difference may seem bearable. It is not; it amounts to millions of species.

Humanity coevolved with the rest of life on this particular planet; other worlds are not in our genes. Because scientists have yet to put names on most kinds of organisms, and because they entertain only a vague idea of how ecosystems work, it is reckless to suppose that biodiversity can be diminished indefinitely without threatening humanity itself. Field studies show that as biodiversity is reduced, so is the quality of the services provided by ecosystems. Records of stressed ecosystems also demonstrate that the descent can be unpredictably abrupt. As extinction spreads, some of the lost forms prove to be keystone species, whose disappearance brings down other species and triggers a ripple effect through the demographics of the survivors. The loss of a keystone species is like a drill accidentally striking a powerline. It causes lights to go out all over. *E.O. Wilson, 1992. The diversity of life. W.W. Norton and Company, New York. 424 pp.*

54th ANNUAL SASKATCHEWAN CHRISTMAS BIRD COUNT — 1995

Compiled by Wayne C. Harris, Saskatchewan Environment and Resource Management, 350 Cheadle Street West, Swift Current, SK. S9H 4G3

More traditional winter weather returned for the 1995 count. Snow cover was general throughout and temperatures were moderate during the count period (16 December 1995 through 2 January 1996). The 86 counts completed this year were two less than last year, continuing a gradual decline since the record 99 in 1991. In spite of the return to more traditional winter weather from the balmy days of 1994, the number of people participating increased from 597 in 1994 to 729 this year. The number of counts was down, but the increase in the number of people participating brought the number of hours accumulated up from 1,120 last year to 1,272.

Weather and Coverage

Table 1 summarizes the weather conditions reported on the counts. As indicated, the temperatures were colder than last year, but still above the normal, with the average overnight low being -15°C and the daytime highs averaging -6°C . Kamsack had the coldest night at -41°C while Chitek Lake reached a high of $+3^{\circ}\text{C}$. The heaviest snow cover was again on the east side of the province. The average snow depth for the entire province was almost 30 cm.

The Birds

Ninety-three species were recorded on count day, with an additional three species during the count

period, giving an overall total of 96 species, down two from last year. The results are compiled in Tables 3, 4 and 7. The total number of birds seen totalled 97,585 individuals, down 13% from last year's 112,685. The most abundant species was House Sparrow with 16,919 individuals, followed by the Snow Bunting with 16,021. Surprisingly common, in spite of general snow cover, was the Mallard (12,217). No other species exceeded 10,000 individuals.

Population trends of some common species are provided in Table 5. The most substantial increases were for irruptive forest species. Among these, Red-breasted Nuthatches were the most prominent but redpolls, grosbeaks and crossbills were also in above-average numbers. Increases in grouse numbers were also evident, especially Gray Partridge and Sharp-tailed Grouse.

Raptor populations declined. The only exception to this was Northern Goshawks that were up, following increasing hare and grouse numbers. Although the decline in Bald Eagles is not surprising with the return of colder temperatures, that of Golden Eagles is. Following the Golden Eagle's downward pattern are Merlin, Prairie Falcon, Rough-legged Hawk, Short-eared Owl, Snowy Owl and even Great Horned Owl.

Noticeable declines were also found in waxwing, raven and magpie

populations. Though they were the most common species, House Sparrows continue their long-term decline.

New Species

Three new species and one new subspecies were found this year, bringing the all-time list to 162 species. The first was a Lewis' Woodpecker found at Fort Qu'Appelle. Seen by several people on count day, it had not been seen before and was not found again afterwards. Rare at any time of year, this is an exceptional find.

The Yellow-headed Blackbird was seen at Moose Jaw 22 December but did not remain until count day. This is surprisingly the first time this species has been found on a count and completed the list of blackbirds (normally found during summer) for the winter list.

The last new species was a Rose-breasted Grosbeak reported from Love-Torch River. Although common during the summer, this species normally winters in the tropics.

The new subspecies was a Harlan's Red-tailed Hawk at White Bear. This bird has been present at the Jordheim farm since 24 November apparently living on the large flock of Rock Doves present.

Rare Species

Table 4 lists the least frequent species on the counts and the rarest species are all in this table. The count period Ring-necked Duck at Fort Qu'Appelle was only the second count record. A Lincoln's Sparrow at Broadview was the first time the species was seen on count day, with the two previous records both being count period records. Other rarities

included an Eastern Screech-owl at Estevan that responded to a tape of screech-owl calls, providing only the second count record. Varied Thrushes found at both Saskatoon and Emma Lake equalled last year's two records. The Rufous-sided Towhee found at Skull Creek for the second year in a row has become either a permanent resident or this locale provides the optimum in Saskatchewan winter habitat for the species. Other unusual species included a White-winged Scoter at Pike Lake, Long-eared Owl at Skull Creek, Song Sparrow at Turtle Lake and American Goldfinch at both Shaunavon and Craven.

House Finches were reported from seven separate counts and the previous high count of 22 was doubled by Moose Jaw. The cold extremes of our winters are obviously not going to stop the spread of this species that has expanded rapidly westward from eastern North America in the past ten years.

High Counts

Table 6 provides a summary of new high counts recorded for species during the 1995 count. Gardiner Dam continues its prominence in merganser counts with a new high of 438 Common Mergansers. Saskatoon is earning the title of feeder capital of Saskatchewan, with an impressive list of new high counts that are probably a result of feeders. The new highs from Saskatoon include Northern Flicker, Blue Jay, Black-billed Magpie, Black-capped Chickadee, and Red-breasted Nuthatch. They also broke the 20-year-old record for White-winged Crossbill, part of a massive invasion of this species across the province. Other impressive counts include 23 White-breasted Nuthatches at Snowden,

250 Dark-eyed Juncos at Grasslands National Park and 214 Pine Siskins at Prince Albert.

Count Areas and Participants

Names of compilers are in italics. Number of participants in each count are in parentheses following the names.

1. ARMIT. Anne Harris, Valeri Harris, *Wayne Harris*, Sheila Lamont. (4)
2. ASSINIBOIA. Ed Bearss, Jack Burgeson, *Cecil Hayward*, Nelson Lamb, Delmar Pettem, Wilf Prentice. (6)
3. BANGOR. *Jean Hilton*. (1)
4. BETHUNE. *Doug and Vera Laing*. (2)
5. BIGGAR. Kyle Peiffer, *Guy Wapple*, Robert Wapple, Liana Warke. (4)
6. BIRCH HILLS. Marg Mareschal, *Moe Mareschal*, Don Weidl. (3)
7. BRIGHTWATER RESERVOIR. Andy Didiuk, *Alan Smith*. (2)
8. BROADVIEW. *Dave Chaskavich*. (1)
9. CABRI. *Carman Dodge*, Henri Lebastard. (2)
10. CANDLE LAKE. *Burke Korol*, John Korol, Helen Korol. (3)
11. CHITEK LAKE. *Marcel Cornect*. (1)
12. CHRISTOPHER LAKE. *Dorothy Bird*. (1)
13. CLARK'S CROSSING. Nancy Allan, Evelyn Bacon, Barbara Brokx, Emile Brokx, Muriel Carlson, Fran Eldridge, Mary Gilliland, Bernie Gollop, Bob Johanson, Marlene Kalanack, Kay Krueger, Gerard Lahey, Arnold MacMillan, Cliff Matthews, Brian McGill, Vance McNab, Mack Miller, Menno Nickel, Hilda Noton, Keith Pahl, Betty Penner, Stan Shadick, Mary Shoard, Jim Wedgwood, *Michael Williams*, Jim Wood, Lois Wooding. (27)
14. CORONACH. *Wayne Harris*, Tim Moxham. (2)
15. CRAVEN. Margaret Belcher, Al Binney, Betty Binnie, *Trevor Herriot* (*non-participating compiler*), Phil Holway, Bob Kreba, Ron Myers, Bill Ogilvie, Pat Ogilvie, Curtis Pollock. (9)
16. CROOKED LAKE. Warren Hjertaas, Bill Livesay, Mayta Livesay, Boyd Metzler, *Dorothy Skene*, Ed Skene, Mel Zimmer. (7)
17. CROOKED RIVER. Karl Mehler, Katherine Mehler, Kristine Mehler, *Margaret Mehler*, Morley Mehler, Phyllis Siemens. (6)
18. DILKE. *Margaret Belcher*, Brian McArton, Ken McArton. (3)
19. DUVAL. Enid Cumming, George Herber, Linda Korytko, Iain Richardson, *Lloyd Saul*, Mez Smith. (6)
20. EASTEND. Dorothy Holmes, *Henri Lebastard*, Florence McCuaig, Laureen McLeod, Helen Wlaz. (5)
21. EMMA LAKE. Glen Hanson, Jean Hanson, *Deanna Krug*, Norman Krug. (4)
22. ENDEAVOUR. *Norman Harris*. (1)
23. ESTEVAN. Gord Tenold, Henrietta Tenold, *Guy Wapple*. (3)
24. FENTON. *Carman Dodge*. (1)
25. FIFE LAKE. *Martin Myers*, Robert Rafuse. (2)
26. FORT QU'APPELLE. Elizabeth Aitken, James Armstrong, Peter Ashcroft, Phyllis Bordass, William Bordass, Errol Cochrane, Vera Cousins, Anne Davies, Frank Davies, Doug Harman, *Ronald Hooper*, Peter Horsman, Lois Lamontagne, George Larocque, Lucy Larocque, Lloyd Leader, Maurice Lindgren, Jack Lowe, Don McDougall, Jean McKenna, Alan Mlazgar, Webb Palmer, Paul Paquin, Helen Reimer, Lorne Rowell, Lloyd Talbot, Gus Vanderpolder. (27)
27. FORT WALSH. Anne Harris, Valeri Harris, Wayne Harris, Burke Korol, Sheila Lamont, Sue McAdam, Wilkes Parsonage, Gary Provanchier, *Guy Wapple*, Robert Wapple. (9)
28. GARDINER DAM. Anne Harris, Valeri Harris, Wayne Harris, Mary Houston, Stuart Houston, Ron Jensen, Sheila Lamont, Stuart Slattery, Jantina Portman, *Guy Wapple*, Robert Wapple, Dan Zazelenchuk. (12)

29. GOOD SPIRIT LAKE. *Bill Anaka, Joyce Anaka, Julia Wiwchar.* (3)
30. GOVENLOCK. *Anne Harris, Valeri Harris, Wayne Harris, Sheila Lamont, Sue McAdam, Guy Wapple, Robert Wapple.* (7)
31. GRASSLANDS NATIONAL PARK. *Wayne Harris, Debbie Kilfoyle.* (2)
32. GRASSLANDS NATIONAL PARK (NW). *Brian Besler, Pat Fargey, Sherri Hohn, Florence Miller.* (4)
33. HEPBURN. *Phyllis Siemens.* (1)
34. HORSESHOE BEND (North of Kinistino). *Davene Berg, Dannelle Messer, Stacii Messer, Verna Messer.* (4)
35. HUMBOLDT. *Ed Brockmeyer, Mike Volk.* (2)
36. INDIAN HEAD. *Irv Escott, David Gehl, Gordon Howe, Dora Nichols, Norine Nichols, Lorne Scott.* (6)
37. KAMSACK. *John Berisoff, George and Mary Bernard, Agnes Betz, Marlen Brock, Mable Buceuk, Lindee Dewores, Barb Elasser, Jay and Lena Fry, Anita Klocho, Bill Koroluk, Laura Loeppky, W.J.C. May, Adeline Nykolaishen, Helen Panchuk, Dallas, Kelsey and Ryley Rezansoff, Isabel Ritchie, Metro Rosowsky, Eve Sasyniuk, David and Elsie Severson, John Solmon, Elenor Sookochetz, Stan Stone, Joyce and Pete Uhlow, Gordon Woloschuk.* (30)
38. KELVINGTON. *Pat Finnie, Dianne Sloan, Marguerite Sloan.* (3)
39. KENASTON. *Doug Beckie, Lawrence Beckie.* (2)
40. KILWINNING. *Alan Daku, Ed Driver, Marg Driver, Doug Martin.* (4)
41. KINDERSLEY. *Gerry Essar, Michael Essar.* (2)
42. KINLOCH. *Don Forbes, Doreen Forbes, Cliff Logan, Wilf Rodenberg.* (4)
43. KUTAWAGAN LAKE. *Wayne Harris, Alan Rahn.* (2)
44. LARONGE. *Jim Paul, Lorie Ann Paul.* (2)
45. LAST MOUNTAIN LAKE N.W.A. *John Dunlop, Anne Harris, Valeri Harris, Wayne Harris, Sheila Lamont, Lois Vanthuyne.* (6)
46. LEADER (North). *Daisy Meyers.* (1)
47. LEADER (South). *John Flood, John Rauch, Brenda Schnell, Susan Springett.* (4)
48. LIVELONG. *Sarah Pavka.* (1)
49. LOVE-TORCH RIVER. *Hal Birkett, Joan Birkett, Laurann Carr, Bert Dalziel, Duke Dalziel, Joan Dalziel, Kari Dalziel, Nora Dalziel, Sara Dalziel, Anita Deutschmann, Eric Deutschmann, Rita Deutschmann, Ed Dixon, Marlene Dixon, Betty Donovan, Bruce Donovan, Sean Donovan, Troy Donovan, Eileen L'Heureux, Mildred Long, Bill Matthews, Lynn Matthews.* (22)
50. LUSELAND. *Kim Finley, Estelle Finley, Graeme Finley, Liam Finley, Bill Frey, Brent Honeker, Dustin Honeker, Herman Honeker, Levi Honeker, Shirley Honeker.* (10)
51. MACDOWALL. *Myron Barton.* (1)
52. MEADOW LAKE. *Bill Caldwell, Janet Caldwell, Byron Golly, Stuart Golly, Tyler Golly, Anne Sequin, Randy Sequin, Robbie Sequin, John Weir, Andrew Wilson, Bob Wilson, Cindy Wilson, Ian Wilson.* (13)
53. MELFORT. *Dave Atamanchuk, Phil Curry, Kim Eskowich, Kate Johnson, Gerri Knudson, Gerard Letain, Dave Pochailo.* (7)
54. MELFORT (SE). *Frieda Markland.* (1)
55. MELVILLE. *Bill Barmry, Marion MacLean, Jeanette Olson, Ross Wotherspoon.* (4)
56. MISSINIPE. *Jim Bot, Karen Coleman, Shirley Glass.* (3)
57. MOOSE JAW. *Ron and Vi Anderson, Edith Bell, Nora Bowler, Doug and Helen Brunsdon, Brian Butlin, Elsie Carrick, Barry and Fern Dowse, Ed, Hartley and Ken Fredeen, Bill and Evelyn Gilmour, George and Margaret Grigg, Al, David, Terry and Trevor Gurnsey, Kerry and Robert Hanley, Bob, Pam and Pat Kern, Eve King, Cy and Leith Knight, T. Lowe, Connie and Hugh McIntyre, Enid and Ernie Meadows, Mary Montague, Tom Mulligan, Wilma Pickering, Ramsay and Marj Ross, Gavina Reekie, Irene Reid, Gus and Mike Sagal, Glen*

- Steel, Alice and Glen Urquhart, Arie Van Dorland, Ed and Grace Walker. (49)
58. MOOSE MOUNTAIN. Ray Belanger, *Greg Bobbitt*, Dick Gutfriend, Boyd Metzler, John Pollock, Keith Sakatch. (6)
59. NIPAWIN. Inge Brown, Vi Budd, *Joyce Christiansen*, Sandra Hosaluk, Doug Pegg, Doug Phillips, Shirley Phillips. (7)
60. PADDOCKWOOD - CHRISTOPHER LAKE. Blake Jones, *Cliff Matthews*. (2)
61. PIKE LAKE. Nancy Allan, Lawrence Beckie, Mark Bidwell, Carol Blenkin, Kent and Laurel Brace, Doug and Helen Campbell, Ron and Sheila Canning, Muriel Carlson, Betty Ann and Tom Dunlop, Emile and Hanna Erickson, Garry and Kathy Genereux, Bob Girvan, *Bernie Gollop*, Mike Gollop, Kurt Greenwood, Jim Hay, Judy Hommen, Don Kinzie, Kay Kruger, Joyce Manton, Cliff Matthews, Menno Nickel, Keith Pahl, Joyce Petrie, Gladys and Glen Pippin, *Frank Roy*, Monte and Pauline Sawyer, Alice Silversides, Ivor Thokel, Hilda Voth, Irma and Tom Watson, Michael Williams, Lois Wooding, (42)
62. PRINCE ALBERT (B). John Burt, Pam Burt, Jamie Chartrand, *Carman Dodge*, Keith Dodge, Bebe Gilmour, Iris Goebel, Joe Graumans, Jessie Irish, Carmen Lizée, Ethen Lizée, Jasmine Lizée, Jeremie Lizée, Laurent Lizée, Tim Loran, Collin Magee, Jeremy Peters, Ted Snow, Deirdre Todd, Jim Town. (20)
63. PRINCE ALBERT NATIONAL PARK. Ed Brown, Hazel Brown, Susan Carr, Kim Clark, Suzanne Clark, Emily and Greg Fenton, Michael Fitzsimmons, Dan Frandsen, David Henry, Elizabeth Henry, Suzanne Henry, Howard Lancaster, Karen Larsen, Bradley Muir, Laura Muir, *Adam Pidwerbeski*, Karen Smith, Elia Tarasoff, Harry Tarasoff, Gavril Tarasoff, Marg Tarleton, Colleen Watson, Libby Weir, Graeme Wesson, Daniel Wesson, Kristin Wesson. (27)
64. QU'APPELLE VALLEY DAM. Jordan Hamm, Roy John, Kay Krueger, Mack Miller, Bob Plaster, Frank Roy, Stan Shadick, *Michael Williams*, Jim Wood. (9)
65. RAYMORE. Anne Harris, Valeri Harris, *Wayne Harris*, Sheila Lamont. (4)
66. REGINA. Sandy Ayer, Jessie Bailey, Donna Barclay, Margaret Belcher, Lionel Bonneville, Stephane Bonneville, David Bryant, Wanda Calvin, Andy Delyk, Scott Dickin, Jim Elliot, Robert Ewart, Sandra Ewart, Kay Ferguson, Mary Ferguson, Margaret Filden, Jill Forrester, Alana Francis, Steven Francis, *Dale Hjertaas*, Paule Hjertaas, Bob Kreba, Linda Langenbacher, Clare Lepage, Don Lepage, Bob Luterbach, Lauren Mang, Linda McDowell, Ron Meyers, Dieter Peschken, John Pollock, Brian Rainey, Pat Sargeant, Margaret Skeel, Frank Switzer, Dan Vetter, Cherie Westmoreland. (37)
67. ROCKGLEN-BORDERLAND. Martin Meyers, *Bob Rafuse*. (2)
68. ROUND LAKE (Qu'Appelle Valley). Pat Connolly, *Doug Francis*, Boyd Metzler, John Pollock. (4)
69. ROUND LAKE (Prince Albert). *Evelyn Marshall*. (1)
70. SASKATCHEWAN LANDING PROVINCIAL PARK. *Wayne Harris*, Ron Jensen, Jeffrey Jensen, Wayne Luchinski. (4)
71. SASKATOON. Don Adams, Darlene Aikman, Nancy Allan, Tony Allen, Juhachi Asai, Kengo Asai, Sumiko Asai, Don Beazely, Beverly Beland, Orval Beland, Bob Besant, Joyce Besant, Mark Bidwell, Eveline Boudreau, Gail Bunt, Muriel Carlson, Bill Cates, Louise Cook, Adam Cooper, Leah Currie, Odile Daku, Eileen Dalglish, Ed Driver, Anne Dzus, Fran Eldridge, Melanie Elliott, Helen Fast, Martin Gerard, Silvia Gerard, Mary Gilliland, Bernie Gollop, Madeleine Gollop, Mike Gollop, Jerry Haigh, John Hanbidge, Kaija Harris, Mary Houston, Stuart Houston, Roy John, Marlene Kalanack, Richard Kerbes, Gordon Koshinsky, Margaret Koshinsky, Barbara Kozmyk, Gerard Lahey, Felicity Lane, Louise Roy Mark, John Mason, Josephine Mason, Cathryn Miller, David Miller, Garth Nelson, Menno Nickel, Bruce Noton, Hilda Noton, Phil Norton, Keith Pahl, Ann Pocknell, Wilf Ready, Lynn Rowland, Orion Schille, Jim Smart, Al Smith, Joe Sonderhausen, Inge Tabel, Phil Taylor, Barry Theissen, Ivor Thokle, Ron Trischuk, Hilda Voth, Heather Wagg, Jim Wedgwood, George West, *Michael*

- Williams, Jim Wood, Dan
Zazelenchuk. (77)
72. SCOTT. Alec Elmquist, *Guy Wapple*,
Robert Wapple. (3)
73. SHAMROCK. *Hugh Henry*. (1)
74. SHAUNAVON. Carl Osterberg, *Mar-
lene Osterberg*, Ruth Robertson, Fred
Wall. (4)
75. SKULL CREEK. Eileen Bennetto, *Jim
Bennetto*, Ray Bennetto, Doris
Bircham, Ralph Drever, Bob Ec-
cleston, Betty Mann, Joane Peterson,
Cory Wasilow, Harvey Wasilow, Mark
Wasilow, Robin Wolfater. (12)
76. SNOWDEN. Bonnie Bailey, Allan and
Rita Birhenthal, Bert Dalziel, Diane
and Don Frieson, *Irene Hagel*, Karen
Hagel, Ralph and Jenny Johnson,
Violet Lien, Lorne and Sharon Lind-
berg, Betty and Harold Pagan, Edna
and Percy Pagan, Jack Pickett, Bill
and Vera Schemenauer, Beu Smearr,
Harold and Irene Thompson, Irene
White. (24)
77. SPALDING. Bill Spizawka, *Velma
Spizawka*. (2)
78. SPINNEY HILL. *Ed Driver*, Tony
Goulding. (2)
79. SQUAW RAPIDS. Anne Harris, Valeri
Harris, *Wayne Harris*, Sheila Lamont,
Guy Wapple. (5)
80. SWIFT CURRENT. James Beattie,
Michelle Gendreau, Hugh Henry, Julie
Jensen, *Ron Jensen*, Walt Kreuger,
Arlyne Lawson, Doug Lawson, Laure
Neish, Ted Philipchuck, Mike Rogers,
Scott Rogers, Richard Schaitel, Don
Sluth, Floyd Stinson, Irene Stinson,
Doris Thoreson, Kaye Waters, John
Weston, Pearl Weston. (20)
81. TISDALE. Carl Mohr, *Joyce Mohr*. (2)
82. TURTLE LAKE. Steve and Carol
Burand, *Muriel Carlson*, Adam Co-
oper, Gil Heim. (5)
83. WEYBURN. Leo Belanger, Louise
Belanger, *Ray Belanger*, Sophie Be-
langer, Greg Bobbitt, Jace Brown,
Ross Douglas, Norm Flaten, Harry
Kapusianyk, Norma Kapusianyk,
Tanya Laurent, Betty Layh, Phil Layh,
Rhode Moldenhauer, Elizabeth Mur-
ray, John Murray, Nick Postey, Keith
Sakatch, Stew Stairmand, Joe Weis-
gerber. (20)
84. WHITE BEAR. Daryl Jordheim, Floyd
Jordheim, Gary Jordheim, Laine Jord-
heim, *Sig Jordheim*, Greg MacCul-
loch, Lynette MacCulloch. (7)
85. WHITEWOOD. Cliff Ashfield, Kurtis
Briggs, Pat Finkas, Vangie Hoggarth,
Dallyn Holmstrom, Joyce Jordan, Wil-
fred Jordens, Bernice Juzyniec, Felix
Juzyniec, Mavis Kay, Jake Kendall,
Joyce Kidd, Doreen McPhail, Jean
Meadows, Bill Meszaros, Illa
Meszaros, *Boyd Metzler*, Marlene
Rey, Tony Rey, Len Santo, Howard
Shurvin, Vera Shurvin, Diane Veresh,
Justin Westberg. (24)
86. YORKTON. *Warren and Elinor Hjer-
taas*. (2)



As the human wave rolled over the last of the virgin islands like a smothering blanket, Paleo-Indians throughout America, Polynesians across the Pacific, Indonesians into Madagascar, Dutch sailors ashore on Mauritius (to meet and extirpate the dodo), they were constrained by neither knowledge of endemism nor any ethic of conservation. For them the world must have seemed to stretch forever beyond the horizon. If fruit pigeons and giant tortoises disappear from this island, they will surely be found on the next one. What counts is food today, a healthy family, and tribute for the chief, victory celebrations, rites of passage, feasts. As the Mexican truck driver said who shot one of the last two imperial woodpeckers, largest of the world's woodpeckers, "It was a great piece of meat." *E.O. Wilson, 1992. The diversity of life. W.W. Norton and Company, New York. 424 pp.*

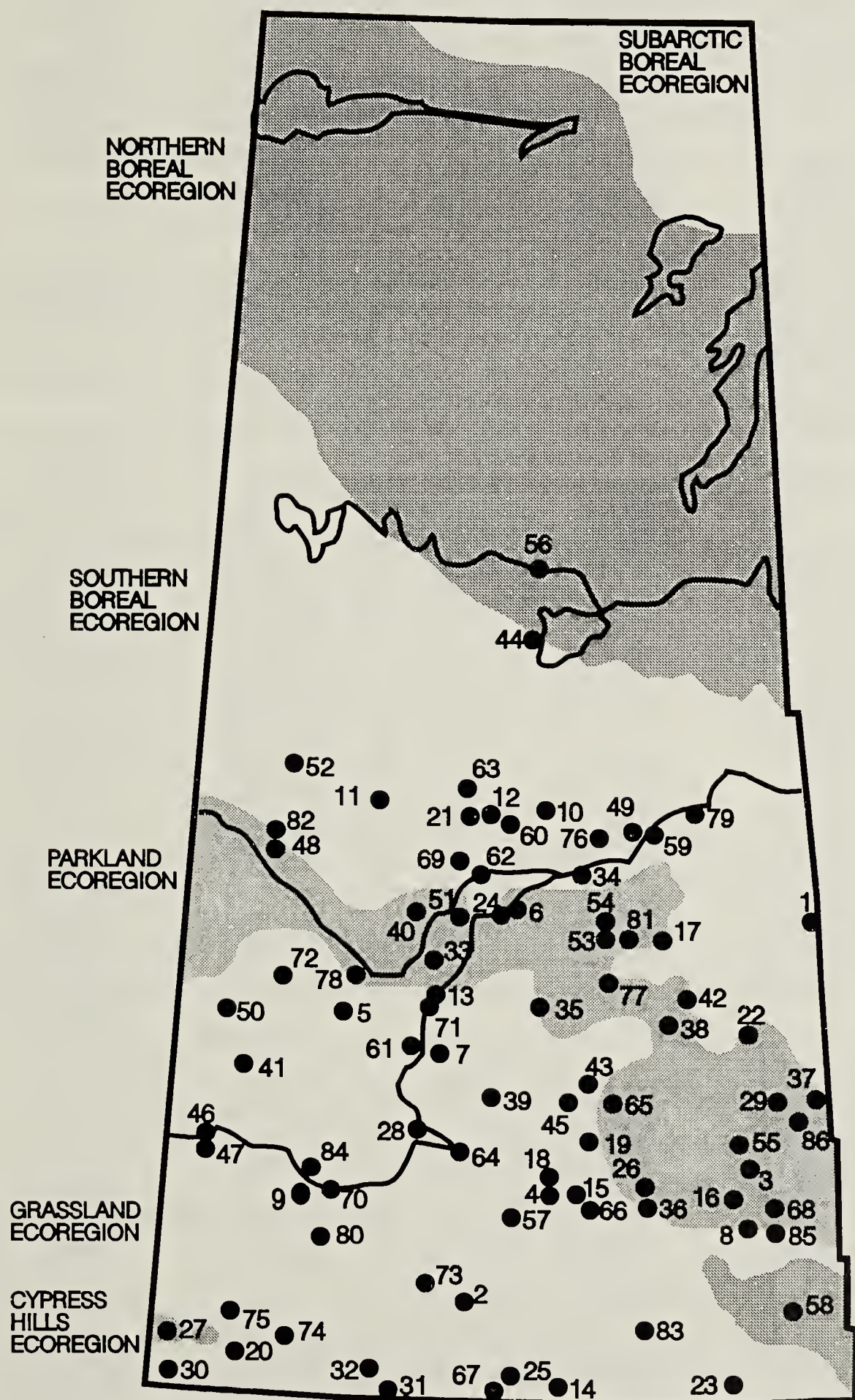


Figure 1. Location of 1995 counts (numbers correspond to locality names in Tables).

Table 1: COUNT WEATHER CONDITIONS (Temperature °C, Wind in kmph and Snow Cover in cm.)

Locality	Min. Temp	Max. Temp	Min. Wind	Max. Wind	Min. Snow	Max. Snow	AM Sky	PM Sky
1. ARMIT	-22	-11	10	40	30	40	overcast	overcast
2. ASSINIBOIA	-25	-20	2	5	30	40	clear	clear
3. BANGOR	-10	-8	15	18	40	45	mostly clear	clear
4. BETHUNE	-14	-10	0	15	12	14	overcast	mostly cloudy
5. BIGGAR	-11	-7	8	20	0	30	partly cloudy	partly cloudy
6. BIRCH HILLS	-6	-5	5	5	20	35	overcast; light snow	overcast; light snow
7. BRIGHTWATER RESERVOIR	-15	-10	0	5	5	15	overcast	clear
8. BROADVIEW	-16	-10	0	5	10	50	clear	clear
9. CABRI	-5	-2			5	15		
10. CANDLE LAKE	-18	-12	0	10	30	50	overcast	overcast
11. CHITEK LAKE	0	3	0	5			overcast	overcast
12. CHRISTOPHER LAKE (N)	-15	-7	0	5	38	70	mostly clear	mostly clear
13. CLARK'S CROSSING	-19	-16	0	10	4	60	partly cloudy	overcast
14. CORONACH	-12	-3	0	15	0	30	clear	overcast; heavy fog
15. CRAVEN	-18	-16	0	0			overcast; light snow	
16. CROOKED LAKE	-12	-10	10	15	40	50	overcast	mostly clear
17. CROOKED RIVER	-7	-4	0	0	30	40	overcast	overcast
18. DILKE	-6	-5	5	15	0	60	overcast	overcast; light fog
19. DUVAL	-8	-4	0	9	2	35	clear	partly cloudy
20. EASTEND							mostly clear	partly cloudy
21. EMMA LAKE	-12	-8	0	5	40	60	overcast	partly cloudy
22. ENDEAVOUR	-9	-4	0	5	20	30	partly cloudy	mostly clear
23. ESTEVAN	-14	-8	0	10	0	15	overcast; moderate fog	partly cloudy
24. FENTON	-14	-2	0	5	10	30	clear	
25. FIFE LAKE	-15	-10	15	20	20	25	partly cloudy	partly cloudy
26. FORT QU'APPELLE	-12	-10	0	0	12	—	overcast	partly cloudy
27. FORT WALSH	-15	-5	0	10	5	40	mostly clear	mostly clear
28. GARDINER DAM	-21	-11	20	50	10	40	partly cloudy	overcast
29. GOOD SPIRIT LAKE	-13	-7	15	20	18	27	overcast	overcast; light fog
30. GOVENLOCK	-20	-8	0	20	5	15	heavy fog	partly cloudy; light fog
31. GRASSLANDS N. PARK	-24	-9	0	5	0	10	clear	clear
32. GRASSLANDS N. PARK (NW)	-10	-6	0	5	5	15	overcast; moderate fog	
33. HEPBURN	-20	-15	0	0	10	30	clear	clear
34. HORSESHOE BEND (N. of Kinistino)	-10	-8	0	0	30	40	overcast; light fog	overcast; light snow
35. HUMBOLDT	-12	-8	0	2	10	20	clear	overcast
36. INDIAN HEAD								
37. KAMSACK	-41		0	5	120		clear	mostly clear
38. KELVINGTON	-18	-15	0	5	30	60	partly cloudy	mostly clear
39. KENASTON	-16	-6	14	16	15	20	partly cloudy	mostly clear
40. KILWINNING	-6	-6	0	5	15	40	clear	mostly clear
41. KINDERSLEY	-10	-7			10	30	partly cloudy; heavy fog	overcast; light snow
42. KINLOCH	-3	2	0	5	32	36	overcast	partly cloudy
43. KUTAWAGAN LAKE	-12	-10	0	5	0	20	overcast	partly cloudy

Table 1: COUNT WEATHER CONDITIONS (continued)

Locality	Min. Temp	Max. Temp	Min. Wind	Max. Wind	Min. Snow	Max. Snow	AM Sky	PM Sky
44. LARONGE	-4	-3	0	5	30	40	partly cloudy	overcast
45. LAST MOUNTAIN LAKE N.W.A.	-16	-12	20	40	0	5	overcast	overcast
46. LEADER (North)	-24	-8	0	10	5	80	clear	clear
47. LEADER (South)	-24	-7		17	30	60	overcast; light fog and snow	overcast; light snow
48. LIVELONG	-18	-9	0	0			overcast; light fog	clear
49. LOVE - TORCH RIVER	-18	-10	0	0	40	60	overcast; moderate fog	overcast; light fog
50. LUSELAND	-14	-8	0	20	10	30	overcast; light snow	overcast; light snow
51. MACDOWALL	-11	-9	3	10	20	35	overcast; moder- ate fog and snow	overcast; moder- ate fog and snow
52. MEADOW LAKE	-10	-2	0	0				
53. MELFORT	-15	-10	0	15	30	40	partly cloudy	partly cloudy
54. MELFORT (SE)	-15	-4	3	5	15	45	overcast; light fog; heavy snow	overcast; heavy fog; heavy snow
55. MELVILLE	-3	-6	0	10	5	90	overcast; moderate fog	overcast; moderate fog
56. MISSINUIPE	-10	-4	0	0	32	32	overcast; moderate snow	overcast; light snow
57. MOOSE JAW	-11	-8	0	5			clear	clear
58. MOOSE MOUNTAIN	-19	-4	0	10	13	32	clear	clear
59. NIPAWIN	-15	-9	5	10	75	75		overcast; light snow
60. PADDOCKWOOD - CHRISTOPHER L.	-4	-3	5	10	40	50	overcast	overcast
61. PIKE LAKE	-18	-10	4	15	2	20	clear	clear
62. PRINCE ALBERT	-24	-15	0	15	20	40	overcast	partly cloudy
63. PRINCE ALBERT NATIONAL PARK	-18	-12	0	5	22	38	overcast	overcast
64. QU'APPELLE VALLEY DAM	-17	-12	0	15	1	60	overcast; light snow	mostly clear
65. RAYMORE	-13	-4	0	20	0	30	clear	clear
66. REGINA	-15	-8	5	28	20	70	mostly clear	mostly clear
67. ROCKGLEN - BORDERLAND	-10	-8	0	5	5	5	mostly clear	partly cloudy
68. ROUND LAKE (Qu'Appelle Valley)	-19	-14	0	5	10	35	overcast; light snow	clear
69. ROUND LAKE (Prince Albert)	-18				60	75		
70. SASKATCHEWAN LANDING P. PARK	-7	-3	0	10	0	10	mostly clear	partly cloudy
71. SASKATOON	-17	-8	0	8	5	30	clear	clear
72. SCOTT	-16	-11	0	20	0	20	mostly clear	partly cloudy
73. SHAMROCK	-7	-7	0	5			mostly cloudy	mostly cloudy
74. SHAUNAVON	-10	-8	0	0	30	30	clear	clear
75. SKULL CREEK	1	2	0	0	0	22	clear	clear
76. SNOWDEN	-14	-9	0	0	20	33	heavy fog	heavy fog
77. SPALDING	-5	-5	0	0	10	100	overcast	overcast
78. SPINNEY HILL	-13	-6	0	10	0	30		
79. SQUAW RAPIDS	-10	-5	30	40	15	18	overcast	partly cloudy
80. SWIFT CURRENT	-16	-12		15			clear	mostly clear
81. TISDALE	-15	-10	10	12	40	50	clear	partly cloudy
82. TURTLE LAKE	-20	-14	0	0		30	clear	mostly clear
83. WEYBURN	-20	-10	10	15	10	15	overcast	overcast
84. WHITE BEAR	-10	-10	0	0	10	60	clear	clear
85. WHITEWOOD	-28	-18			15	40	overcast	overcast
86. YORKTON		-12	0	5				clear

Table 2: COUNT COVERAGE

Locality	Km Foot	Hrs Foot	Km Car	Hrs Car	Hrs Feed	Evergr (%)	Mixed (%)	Decid (%)	Aspen Farm (%)	Aspen Prairie (%)	Prairie (%)	Tame (%)	Cult (%)	Yards	Urban	Water	Other
1. ARMIT	2	2	70	6			26-50	26-50					<5	<5			
2. ASSINIBOIA									26-50	05-25			05-25	51-75			
3. BANGOR						<5		05-25			05-25		05-25	<5			
4. BETHUNE									05-25				26-50	26-50	05-25		
5. BIGGAR	11	5.5	185	12													
6. BIRCH HILLS	3	1.5	93	6	1				51-75	05-25			26-50	05-25	05-25		
7. BRIGHTWATER RESERV.	2	2	120	6	0.25	<5		<5	05-25	05-25	<5	<5	26-50	05-25	05-25		
8. BROADVIEW	4.5	3	91	4		<5		26-50	26-50	26-50	<5	<5		<5	<5		
9. CABRI	2	0.5	87	1.5	1								51-75	05-25	<5		
10. CANDLE LAKE	1	0.5	142	6	1	05-25	26-50	05-25									
11. CHITEK LAKE		1		3.5	1.5												
12. CHRISTOPHER LAKE (N)	1.5	1			2	>75											
13. CLARK'S CROSSING	23	15.5	505	24	3	<5	<5	<5	05-25	05-25	<5	<5	05-25	26-50	05-25	<5	05-25 (ri)
14. CORONACH	2	1	160	6							26-50		26-50	05-25	<5	26-50	
15. CRAVEN	14	5	130	8	9.5				05-25		05-25		26-50	26-50	26-50	<5	
16. CROOKED LAKE	1	1.5	215	7	1			51-75			<5			<5	<5	05-25	
17. CROOKED RIVER	1	0.5	29	1.5	5			26-50	26-50					<5	<5		05-25 (ro)
18. DILKE	4	2	93	5					05-25	05-25	<5	<5	<5	05-25	26-50		
19. DUVAL	2	1.5	147	5	1		51-75		26-50	05-25	<5		26-50	05-25	51-75		
20. EASTEND																	
21. EMMA LAKE	2	1	55	3	3		>75						05-25	<5	<5		51-75 (ri)
22. ENDEAVOUR	1.5	4.5	26	2	2			26-50					26-50	51-75	05-25	05-25	
23. ESTEVAN	9	4.5	180	6	2				<5			05-25	51-75	<5	<5		
24. FENTON			193	3.3	0.5						<5		51-75	<5	<5	05-25	
25. FIFE LAKE			130	5												05-25	
26. FORT QU'APPELLE	4	2	60	6	3				05-25				<5	05-25	05-25	05-25	26-50 (ri)
27. FORT WALSH	31	15.5	177	16.5			26-50				<5		05-25	05-25		05-25	05-25 (ri)
28. GARDINER DAM	21	12	404	21.25					<5		<51-75	05-25	26-50	26-50	<5		
29. GOOD SPIRIT LAKE	2.5	1.5	106	4.5	3	<5	<5	26-50	26-50				26-50	05-25			
30. GOVENLOCK	16	8	300	13						51-75			26-50	26-50			

Abbreviations: (ri) = riparian; (ro) = roads; (lf) = landfill; (rb) = river breaks

Table 2: COUNT COVERAGE (continued)																	
Locality	Km Foot	Hrs Foot	Km Car	Hrs Car	Hrs Feed	Evergr (%)	Mixed (%)	Decid (%)	Aspen Fam (%)	Prairie (%)	Tame (%)	Cult (%)	Yards (%)	Urban (%)	Water (%)	Other (%)	
31. GRASSLANDS N.P.	3	2	200	5						51-75		05-25	05-25				
32. GRASSLANDS N.P. (NW)			100	3						51-75		26-50	26-50				
33. HEPBURN			24	1	4							20	80				
34. HORSESHOE BEND (N. OF KINISTINO	5	2	40	1	3					<5		26-50	100	26-50			
35. HUMBOLDT					6	1	3		05-25			05-25	51-75	26-50			
36. INDIAN HEAD				40		05-25	26-50	26-50	05-25			05-25	26-50	05-25	<5		
37. KAMSACK					2				5			70	25				
38. KELVINGTON	2	1	45	4	2							85	10	5			
39. KENASTON	1	0.5	60	5	2				26-50				26-50	<5			
40. KILWINNING			105	6		<5	<5	26-50	<5		<5						
41. KINDERSLEY	2	1	85	2	7	05-25	26-50	05-25	26-50				05-25				
42. KINLOCH	1	1	200	4						26-50		>75		26-50	<5		
43. KUTAWAGAN LAKE	4	1.5	61	5.5	0.5	05-25	26-50			05-25	05-25	51-75	05-25	05-25			
44. LARONGE	2	1	269	11													
45. LAST MOUNTAIN L. N.W.A.	5	4	40	2	3					26-50	26-50	26-50	05-25	<5			
46. LEADER (North)				4	4					05-25		51-75	<5	<5			
47. LEADER (South)				4	5					05-25			26-50	26-50			
48. LIVE LONG	2	2	55	3	24	<5	26-50					05-25	26-50	05-25			
49. LOVE - TORCH RIVER	6	4	115	4	4				26-50	05-25	<5	05-25	05-25	05-25			
50. LUSELAND																	
51. MACDOWALL	2	2	40	3	4	05-25	05-25	05-25	05-25			<5	05-25	05-25			
52. MEADOW LAKE	5	2	202	9	4			05-25				05-25	20	60			
53. MELFORT	3	3	19	1	10		5	5	10				100				
54. MELFORT (SE)	4	6	10	1	8				26-50	05-25		05-25	26-50	05-25			
55. MELVILLE	8	4	30	2	2												
56. MISSINUIPE					5												
57. MOOSE JAW	16	7	84	7	3				26-50	05-25		05-25	05-25	100		26-50 (ri)	
58. MOOSE MOUNTAIN	2	1.5	161	5				05-25				05-25	<5	05-25			
59. NIPAWIN		2		1	4	05-25	05-25	05-25		05-25				26-50			
60. PADDOCKWOOD - CHRISTOPHER LAKE	0.5	0.75		4			>75					51-75	05-25	<5			

Table 2: COUNT COVERAGE (continued)																	
Locality	Km Foot	Hrs Foot	Km Car	Hrs Car	Hrs Feed	Evergr (%)	Mixed (%)	Decid (%)	Aspen Farm (%)	Aspen Prairie (%)	Prairie (%)	Tame (%)	Cult (%)	Yards (%)	Urban (%)	Water (%)	Other (%)
61. PIKE LAKE	36	26.6	373	12.5	11												
62. PRINCE ALBERT	4.5	1	272	16	8	05-25	<5		<5	<5		<5			>75		
63. PRINCE ALBERT N.P.	57.5	22.3	121.3	6.25	5	05-25	26-50	05-25		05-25	05-25		26-50	05-25	05-25	<5	<5
64. QU'APPELLE VALLEY DAM	10	5.5	314.2	8.5				05-25	<5	26-50			26-50	05-25	<5		
65. RAYMORE	11	4	231	8	1												
66. REGINA	77	49	587	39	7.5			<5	05-25	<5	<5	<5	26-50	<5	26-50	<5	
67. ROCKGLEN - BORDERLAND	2	0.5	243	6							26-50		26-50	<5			
68. ROUND LAKE (QU'APPELLE VALLEY)	2	1	167	7	0.25			05-25	05-25	26-50			05-25	05-25		<5	
69. ROUND LAKE (PRINCE ALBERT)					4		100										
70. SASKATCHEWAN LANDING PROVINCIAL PARK	2	1	105	6							51-75		26-50	<5		<5	<5 (n)
71. SASKATOON	104.9	59.75	623.6	52	71.5	<5	<5	<5	05-25	05-25	<5	<5	05-25	05-25	26-50	<5	<5 (f)
72. SCOTT	8	4	216	5	2								35	35	30		
73. SHAMROCK	1.5	1.5	60	2								40	30	30			
74. SHAUNAVON	5	2	30	4	1								75	75	25		
75. SKULL CREEK	25	10	126	12	5				05-25	05-25	05-25		26-50	26-50			
76. SNOWDEN	5	4	174	10	10		26-50						<5	26-50	<5		
77. SPALDING	4.8	2	80	3	3		26-50	26-50						05-25	26-50		
78. SPINNEY HILL	1	0.5	120	4		<5	<5	26-50	26-50	<5		<5	26-50	<5			
79. SQUAW RAPIDS	27	14	86	11		05-25	26-50	05-25			05-25		<5	<5	05-25	<5	
80. SWIFT CURRENT	17	15	310	21	2								05-25	05-25			
81. TISDALE				2		05-25	26-50						51-75				
82. TURTLE LAKE	2	1	100	5								<5	26-50	<5	05-25		
83. WEYBURN	3.6	1.5	395	15	1.5	05-25	05-25	05-25	26-50	26-50	05-25		26-50	<5	05-25		
84. WHITE BEAR	30	18	28	0.4	0.5								20	5			
85. WHITEWOOD	12	6.5	270	8	23				26-50	<5				05-25	51-75		75 (rb)
86. YORKTON																	

Abbreviations: (ri) = riparian; (ro) = roads; (f) = landfill; (rb) = river breaks

Table 3-1: SPECIES RECORDED FROM MORE THAN SIX LOCALITIES

(+ = species seen during the count period but not on count day)

SPECIES	LOCATION AND DATE									
	1. ARMIT December 23	2. ASSINIBOIA January 2	3. BANGOR December 29	4. BETHUNE December 26	5. BIGGAR December 19	6. BIRCH HILLS December 21	7. BRIGHTWATER RES. December 17	8. BROADVIEW December 28	9. CABRI December 26	10. CANDLE LAKE December 30
CANADA GOOSE										
MALLARD										
COMMON GOLDENEYE										
BALD EAGLE				+						
NORTHERN GOSHAWK					1	+				
GOLDEN EAGLE					1				+	
MERLIN				+		1				
GRAY PARTRIDGE		96	+	+	23	5				
RING-NECKED PHEASANT		6								
RUFFED GROUSE	5		2			1		1		
SHARP-TAILED GROUSE	11	4	3	4	93		11	8		
ROCK DOVE			5	6	149	41	19	32	40	
GREAT HORNED OWL		4	1		2	1		+		
SNOWY OWL		1		+		1		1	2	
DOWNY WOODPECKER			2		3	5	2	3		2
HAIRY WOODPECKER	1		3		3	3	2	+		4
NORTHERN FLICKER (Y-s)										
PILEATED WOODPECKER										
HORNED LARK					2	2		1	8	
GRAY JAY	6									8
BLUE JAY	6		1		1	5		1		4
BLACK-BILLED MAGPIE	52	42	5	4	191	27	47	34	7	11
AMERICAN CROW										
COMMON RAVEN	75		3		28	4	1	9		130
BLACK-CAPPED CHICKADEE	20		26	2	20	43	8	37		29
BOREAL CHICKADEE	1									6
RED-BREASTED NUTHATCH	22		2		1		1			5
WHITE-BREASTED NUTHATCH	1		2					6		
AMERICAN ROBIN										
BOHEMIAN WAXWING		4	+		348	1	85			
CEDAR WAXWING										
NORTHERN SHRIKE										
EUROPEAN STARLING					2					
DARK-EYED JUNCO			1							
SNOW BUNTING	233	10	60	25	188	155	1	3	25	
RUSTY BLACKBIRD										
PINE GROSBEAK	17		9		19	+	5	5		21
PURPLE FINCH										
HOUSE FINCH										
WHITE-WINGED CROSSBILL	69				7	6		1		40
COMMON REDPOLL	11		14		269	68	13	104		50
HOARY REDPOLL										
PINE SISKIN					2					
EVENING GROSBEAK	91					23				154
HOUSE SPARROW	51	350	11	50	680	195	14	32	60	
INDIVIDUALS IN TABLES 4 & 5	9	0	0	0	2	0	0	1	1	3
SPECIES IN TABLES 4 & 5	5	0	1	0	2	0	0	1	1	2
NO. SPECIES COUNT DAY	22	9	17	6	24	19	13	17	7	15
NO. SPECIES COUNT PERIOD	22	9	20	10	24	21	13	19	8	15
NO. INDIVIDUALS COUNT DAY	710	517	150	91	2035	587	209	279	143	467

Table 3-2: SPECIES RECORDED FROM MORE THAN SIX LOCALITIES
(+ = species seen during the count period but not on count day)

SPECIES	LOCATION AND DATE									
	11. CHITEK LAKE December 23	12. CHRISTOPHER LAKE (N) December 28	13. CLARK'S CROSSING December 16	14. CORONACH December 29	15. CRAVEN December 16	16. CROOKED LAKE December 27	17. CROOKED RIVER December 24	18. DILKE December 24	19. DUVAL December 26	20. EASTEND December 30
CANADA GOOSE			1	134						
MALLARD				5448		2				
COMMON GOLDENEYE			6	3		26				
BALD EAGLE										
NORTHERN GOSHAWK						1			+	
GOLDEN EAGLE				1	2					
MERLIN					1					
GRAY PARTRIDGE			146	7	17			+	9	
RING-NECKED PHEASANT										4
RUFFED GROUSE	2	2				+	+			
SHARP-TAILED GROUSE			44		20			11		
ROCK DOVE			88		81	32			28	
GREAT HORNED OWL		1	6	1	1					2
SNOWY OWL			8	1				+	1	
DOWNY WOODPECKER	1	2	3		5	4	2		3	6
HAIRY WOODPECKER		2	6		9	5	2		2	8
NORTHERN FLICKER (Y-s)										
PILEATED WOODPECKER		+								
HORNED LARK			1	1590				4		4
GRAY JAY	1	2								
BLUE JAY	3	3			14	13	9		5	
BLACK-BILLED MAGPIE	29		265		84	25	11	22	33	18
AMERICAN CROW						5				
COMMON RAVEN	22	2	16			19	25			
BLACK-CAPPED CHICKADEE	7	17	75		82	44	9	1	19	16
BOREAL CHICKADEE	3	6								
RED-BREASTED NUTHATCH	2	2			2				+	
WHITE-BREASTED NUTHATCH		2			6	7	1			
AMERICAN ROBIN			22		+					1
BOHEMIAN WAXWING			961		43			6	57	
CEDAR WAXWING										
NORTHERN SHRIKE					1	2				
EUROPEAN STARLING			108	7	1	5				
DARK-EYED JUNCO	5				+	2				4
SNOW BUNTING	60		927	40			+	129		
RUSTY BLACKBIRD										
PINE GROSBEAK	13	9	31			17	7		5	
PURPLE FINCH										
HOUSE FINCH										
WHITE-WINGED CROSSBILL	12		22					+	24	
COMMON REDPOLL	350	7	742	30	161	37	10	+	105	
HOARY REDPOLL			11		20		2			
PINE SISKIN					14	24				
EVENING GROSBEAK	11	35				2	50			
HOUSE SPARROW			1604	330	506	5	70	79	498	50
INDIVIDUALS IN TABLES 4 & 5	0	1	4	32	32	0	0	0	0	0
SPECIES IN TABLES 4 & 5	0	1	2	7	1	0	0	0	0	0
NO. SPECIES COUNT DAY	15	16	24	19	21	20	12	7	13	10
NO. SPECIES COUNT PERIOD	15	16	24	19	23	21	2	11	15	10
NO. INDIVIDUALS COUNT DAY	521	93	5097	7624	1102	277	198	252	789	113

Table 3-3: SPECIES RECORDED FROM MORE THAN SIX LOCALITIES
 (+ = species seen during the count period but not on count day)

SPECIES	LOCATION AND DATE									
	21. EMMA LAKE January 1	22. ENDEAVOUR December 25	23. ESTEVAN December 29	24. FENTON December 28	25. FIFE LAKE January 2	26. FORT QU'APPELLE December 16	27. FORT WALSH December 16	28. GARDINER DAM December 18	29. GOOD SPIRIT LAKE December 22	30. GOVENLOCK December 17
CANADA GOOSE			+		679	+				
MALLARD			269		2500	5	1	3878		1
COMMON GOLDENEYE			16		5	13		65		
BALD EAGLE			2			1	5	11		1
NORTHERN GOSHAWK								2	+	
GOLDEN EAGLE			1		1	+	+	2		1
MERLIN										
GRAY PARTRIDGE					18		16	121	8	38
RING-NECKED PHEASANT			2		1	+	4			3
RUFFED GROUSE	1	2				3	1		2	
SHARP-TAILED GROUSE					74	18	59	65	13	30
ROCK DOVE			57	5	30	+	1	64	3	11
GREAT HORNED OWL			2	+		+	1	2	+	6
SNOWY OWL								1		4
DOWNY WOODPECKER	2		11	1		5	2	1	10	
HAIRY WOODPECKER	3	1	3	5		8	7		11	
NORTHERN FLICKER (Y-s)						1				
PILEATED WOODPECKER	+								1	
HORNED LARK			22		729		11	11		453
GRAY JAY	2	3				+				
BLUE JAY	21		2	1		22		1	6	
BLACK-BILLED MAGPIE		8	15	12	5	52	163	138	34	8
AMERICAN CROW						+				
COMMON RAVEN	78	50		4		6	1	1	5	
BLACK-CAPPED CHICKADEE	40	7	39	13		169	66	3	53	
BOREAL CHICKADEE	13									
RED-BREASTED NUTHATCH	9		3			5	12	3	1	
WHITE-BREASTED NUTHATCH	5	1	14			11			3	
AMERICAN ROBIN			3			+				
BOHEMIAN WAXWING			12			16	67	433		
CEDAR WAXWING						+				
NORTHERN SHRIKE							4		1	
EUROPEAN STARLING			+		3	6	1	14	2	
DARK-EYED JUNCO						+				
SNOW BUNTING	13	125	35	29	1500	62	104	66	186	480
RUSTY BLACKBIRD						6	8			2
PINE GROSBEAK	34	23				30	2	5	48	
PURPLE FINCH										
HOUSE FINCH			+							
WHITE-WINGED CROSSBILL			3			+	15		2	
COMMON REDPOLL	+	200	173	67	62	42	92	39	32	11
HOARY REDPOLL		7				+			+	
PINE SISKIN			46			30	3			
EVENING GROSBEAK	40	20		16		+			11	
HOUSE SPARROW	1	6	162			220	114	680	48	242
INDIVIDUALS IN TABLES 4 & 5	0	0	42	0	4200	2	84	439	0	24
SPECIES IN TABLES 4 & 5	2	0	6	0	1	5	9	2	0	4
NO. SPECIES COUNT DAY	13	13	28	10	14	24	34	25	21	20
NO. SPECIES COUNT PERIOD	17	13	31	11	14	39	35	25	24	20
NO. INDIVIDUALS COUNT DAY	262	453	934	153	9807	733	844	6045	480	1315

Table 3-4: SPECIES RECORDED FROM MORE THAN SIX LOCALITIES
(+ = species seen during the count period but not on count day)

SPECIES	LOCATION AND DATE									
	31. GRASSLANDS N.P. December 28	32. GRASSLANDS N.P. (NW) December 19	33. HEPBURN December 18	34. HORSESHOE BEND December 30	35. HUMBOLDT December 26	36. INDIAN HEAD December 20	37. KAMSACK January 1	38. KELVINGTON December 28	39. KENASTON December 17	40. KILWINNING December 22
CANADA GOOSE						12				
MALLARD						38				
COMMON GOLDENEYE						2				
BALD EAGLE						1				
NORTHERN GOSHAWK						2				1
GOLDEN EAGLE	3						2			
MERLIN						1				
GRAY PARTRIDGE	1	6			7	21	5		7	10
RING-NECKED PHEASANT	9	4								
RUFFED GROUSE					+		14	12		1
SHARP-TAILED GROUSE	14	16		+	25	6	10		2	
ROCK DOVE					300				23	1
GREAT HORNED OWL	2				1	2	2	+		
SNOWY OWL							2		+	
DOWNY WOODPECKER			1		1	5	33	3		1
HAIRY WOODPECKER					2	7	18	4		2
NORTHERN FLICKER (Y-s)										
PILEATED WOODPECKER							8			
HORNED LARK	21	27							15	1
GRAY JAY				2			4			4
BLUE JAY				4	2	1	75	4		10
BLACK-BILLED MAGPIE	42	19		4	26	34	27	6	25	37
AMERICAN CROW		3				1				
COMMON RAVEN			1	2		2	31	8	2	12
BLACK-CAPPED CHICKADEE			1	3	27	102	124	20	3	11
BOREAL CHICKADEE										2
RED-BREASTED NUTHATCH			1		24	29	25			3
WHITE-BREASTED NUTHATCH						9	13	2		1
AMERICAN ROBIN										
BOHEMIAN WAXWING	12		20			70	50	50		
CEDAR WAXWING					62					
NORTHERN SHRIKE							1			
EUROPEAN STARLING					24					3
DARK-EYED JUNCO		250					44	2		
SNOW BUNTING	32	212			4	115	100	210	170	220
RUSTY BLACKBIRD										
PINE GROSBEAK				4	80	7	263	30		12
PURPLE FINCH										
HOUSE FINCH										
WHITE-WINGED CROSSBILL								80		5
COMMON REDPOLL			11	41	35	36	107	30	38	73
HOARY REDPOLL				6						3
PINE SISKIN				8		27	105			
EVENING GROSBEAK				37			92	36		12
HOUSE SPARROW	93	20			84	50	106	4	75	77
INDIVIDUALS IN TABLES 4 & 5	47	22	0	0	0	0	3	0	0	1
SPECIES IN TABLES 4 & 5	3	1	0	0	0	0	2	0	0	1
NO. SPECIES COUNT DAY	14	9	6	10	16	24	27	16	9	24
NO. SPECIES COUNT PERIOD	14	9	6	11	17	24	27	17	10	24
NO. INDIVIDUALS COUNT DAY	276	579	35	111	704	580	1264	501	360	503

Table 3-5: SPECIES RECORDED FROM MORE THAN SIX LOCALITIES
 (+ = species seen during the count period but not on count day)

SPECIES	LOCATION AND DATE									
	41. KINDERSLEY January 2	42. KINLOCH December 24	43. KUTAWAGAN LAKE December 31	44. LARONGE December 26	45. LAST MOUNTAIN L. N.W.A January 2	46. LEADER (North) December 29	47. LEADER (South) December 31	48. LIVELONG December 20	49. LOVE-TORCH RIVER December 30	50. LUSELAND January 2
CANADA GOOSE										
MALLARD										
COMMON GOLDENEYE										
BALD EAGLE										
NORTHERN GOSHAWK									1	
GOLDEN EAGLE					1	2	1			
MERLIN										+
GRAY PARTRIDGE			22		10	27	82		1	80
RING-NECKED PHEASANT						9				
RUFFED GROUSE		+		+					12	
SHARP-TAILED GROUSE		5	59	4	78	35	+			5
ROCK DOVE			10		248	3	6	35	52	8
GREAT HORNED OWL		1	+							1
SNOWY OWL	3		1		3	1	4			1
DOWNY WOODPECKER		3				1	2	4	2	+
HAIRY WOODPECKER		9		2	1			8	8	+
NORTHERN FLICKER (Y-s)										+
PILEATED WOODPECKER	1	+								
HORNED LARK						5	80			2
GRAY JAY		10		14					1	
BLUE JAY		19	+	6			2	8	26	+
BLACK-BILLED MAGPIE	6	7	49	5	74	40	40		8	47
AMERICAN CROW										
COMMON RAVEN		14		169				4	22	
BLACK-CAPPED CHICKADEE		29	7	17	2	2	4		45	4
BOREAL CHICKADEE				2					+	
RED-BREASTED NUTHATCH		2		2			2		2	
WHITE-BREASTED NUTHATCH		6							7	
AMERICAN ROBIN										
BOHEMIAN WAXWING	75	+			+			50	3	+
CEDAR WAXWING							10			
NORTHERN SHRIKE							1		1	+
EUROPEAN STARLING			7		9	3				
DARK-EYED JUNCO							1		1	
SNOW BUNTING		+	1165	7	2593		425	50	+	127
RUSTY BLACKBIRD										
PINE GROSBEAK		145	4	38	1			40	98	
PURPLE FINCH										
HOUSE FINCH										
WHITE-WINGED CROSSBILL			+		1				8	
COMMON REDPOLL		36	120	77	260		5	30	126	457
HOARY REDPOLL			1	6	4					
PINE SISKIN							+			
EVENING GROSBEAK		34		27		4		30	219	
HOUSE SPARROW	35	16	602		247	1	350	25	64	11
INDIVIDUALS IN TABLES 4 & 5	3	1	3	0	32	0	2	0	1	0
SPECIES IN TABLES 4 & 5	1	2	2	1	1	1	2	0	2	0
NO. SPECIES COUNT DAY	6	16	14	14	16	13	18	11	22	11
NO. SPECIES COUNT PERIOD	6	21	17	16	17	14	20	11	25	18
NO. INDIVIDUALS COUNT DAY	123	337	2050	376	3564	133	1017	284	708	743

Table 3-6: SPECIES RECORDED FROM MORE THAN SIX LOCALITIES
(+ = species seen during the count period but not on count day)

SPECIES	LOCATION AND DATE									
	51. MACDOWALL December 31	52. MEADOW LAKE December 26	53. MELFORT January 1	54. MELFORT (SE) December 26	55. MELVILLE December 24	56. MISSINUIPE December 29	57. MOOSE JAW December 26	58. MOOSE MOUNTAIN December 28	59. NIPAWIN December 31	60. PADDOCKWOOD-CHR. L. December 26
CANADA GOOSE										
MALLARD										
COMMON GOLDENEYE										
BALD EAGLE										
NORTHERN GOSHAWK		1								
GOLDEN EAGLE										
MERLIN							1			
GRAY PARTRIDGE	5	5	+				133			
RING-NECKED PHEASANT							11	1		
RUFFED GROUSE		3		6						
SHARP-TAILED GROUSE	6						19			
ROCK DOVE	30	80			+		450	16	18	
GREAT HORNED OWL			1				2	1		
SNOWY OWL				1			+			
DOWNY WOODPECKER	2	1	1	1	3	1	7	15	3	2
HAIRY WOODPECKER	2	3	1	1	2	1	7	10	1	2
NORTHERN FLICKER (Y-s)							1			
PILEATED WOODPECKER	+							1		
HORNED LARK										
GRAY JAY	4	6				7	1		1	4
BLUE JAY	2	2	4		1	3		44	17	5
BLACK-BILLED MAGPIE	9	11	6	5	5		40	15	3	8
AMERICAN CROW							+			
COMMON RAVEN	12	64	4	10	3	2			44	6
BLACK-CAPPED CHICKADEE	30	30	14	3	32	10	52	148	18	12
BOREAL CHICKADEE										
RED-BREASTED NUTHATCH		2					28	3	6	2
WHITE-BREASTED NUTHATCH			2				5	14		
AMERICAN ROBIN							2			
BOHEMIAN WAXWING	6	53	80	70			+		25	
CEDAR WAXWING		26			40					
NORTHERN SHRIKE								3		
EUROPEAN STARLING		8					70			
DARK-EYED JUNCO		1					25		4	
SNOW BUNTING	150	142	36	20	100		25			97
RUSTY BLACKBIRD							1			
PINE GROSBEAK	8	38	12	2	20	13	6	11	32	8
PURPLE FINCH	2						2			
HOUSE FINCH							44			
WHITE-WINGED CROSSBILL			8				+		27	
COMMON REDPOLL	30	173	20	50	27	18	63	108	60	5
HOARY REDPOLL										
PINE SISKIN		1					117	1		
EVENING GROSBEAK	80	19	13	30	2	2	+	53	112	15
HOUSE SPARROW		149	100	100	30		152	15	15	
INDIVIDUALS IN TABLES 4 & 5	2	1	0	0	0	0	0	0	9	0
SPECIES IN TABLES 4 & 5	1	1	0	0	0	0	1	0	0	0
NO. SPECIES COUNT DAY	17	23	15	13	12	9	25	17	16	12
NO. SPECIES COUNT PERIOD	18	23	16	13	13	9	31	17	16	12
NO. INDIVIDUALS COUNT DAY	380	819	302	299	265	57	1264	459	395	166

Table 3-7: SPECIES RECORDED FROM MORE THAN SIX LOCALITIES
(+ = species seen during the count period but not on count day)

SPECIES	LOCATION AND DATE									
	61. PIKE LAKE December 30	62. PRINCE ALBERT December 17	63. PRINCE ALBERT N.P. December 30	64. QU'APPELLE VALLEY DAM December 17	65. RAYMORE December 25	66. REGINA December 26	67. ROCKGLEN-BORDERLAND December 16	68. ROUND LAKE (QU'APPELLE V.) December 17	69. ROUND LAKE (PRINCE ALBERT) January 2	70. SASK LANDING (P.P.) December 27
CANADA GOOSE						165		2		
MALLARD						66				
COMMON GOLDENEYE	2			6		1				
BALD EAGLE	2							1		1
NORTHERN GOSHAWK	1									
GOLDEN EAGLE							2	1		1
MERLIN						1	1			
GRAY PARTRIDGE	4			59	+	105	44	14		127
RING-NECKED PHEASANT							22			
RUFFED GROUSE	+	4	12		2					1
SHARP-TAILED GROUSE	5			65	22	4	162	+	+	2
ROCK DOVE	25	433		11	31	1002		8		23
GREAT HORNED OWL	4	+		5	1	1	1	+		
SNOWY OWL				1		10	+			1
DOWNY WOODPECKER	6	8	2	1	1	13		9	2	2
HAIRY WOODPECKER	24	7	5	2	2	8		9	5	
NORTHERN FLICKER (Y-s)	2					1				
PILEATED WOODPECKER			2							
HORNED LARK							298			2
GRAY JAY		5	25						1	
BLUE JAY	36	14	4		+			12	12	
BLACK-BILLED MAGPIE	194	53	17	85	57	176	14	27		78
AMERICAN CROW		1				1				
COMMON RAVEN	43	142	17	3	8			9	2	
BLACK-CAPPED CHICKADEE	259	39	52	19	19	34		119	30	4
BOREAL CHICKADEE			43							
RED-BREASTED NUTHATCH		5	6		+	117		3		
WHITE-BREASTED NUTHATCH	3	11	4			9		10	2	
AMERICAN ROBIN	7					2		1		
BOHEMIAN WAXWING	188	87		92	+	263				+
CEDAR WAXWING						4				
NORTHERN SHRIKE	2							1		
EUROPEAN STARLING	80			32	1	6	+			
DARK-EYED JUNCO	+	28			+	34				
SNOW BUNTING	41	44		1	131	110		+		
RUSTY BLACKBIRD	4				+					
PINE GROSBEAK	96	56	25	7	12	23		53	4	
PURPLE FINCH						+			4	
HOUSE FINCH						34				
WHITE-WINGED CROSSBILL	5		31		10	307		4		
COMMON REDPOLL	456	32	112	6	37	403	+	60		12
HOARY REDPOLL	4	11				6				
PINE SISKIN	8	214	20	2		112				
EVENING GROSBEAK		239	42					42	80	
HOUSE SPARROW	192	194		273	533	966	30	4		53
INDIVIDUALS IN TABLES 4 & 5	1	1	7	1	250	24	110	1	0	1
SPECIES IN TABLES 4 & 5	1	2	3	0	1	4	3	2	0	1
NO. SPECIES COUNT DAY	28	22	20	20	15	33	10	21	10	14
NO. SPECIES COUNT PERIOD	30	24	20	20	22	34	15	25	11	16
NO. INDIVIDUALS COUNT DAY	1694	1628	426	672	1117	4008	684	390	142	308

Table 3-8: SPECIES RECORDED FROM MORE THAN SIX LOCALITIES
 (+ = species seen during the count period but not on count day)

SPECIES	LOCATION AND DATE									
	71. SASKATCON December 26	72. SCOTT December 27	73. SHAMROCK December 30	74. SHAUNAVON December 26	75. SKULL CREEK December 26	76. SNOWDEN December 29	77. SPALDING December 26	78. SPINNEY HILL December 29	79. SQUAW RAPIDS December 22	80. SWIFT CURRENT December 17
CANADA GOOSE	11									
MALLARD	1									2
COMMON GOLDENEYE	230								245	
BALD EAGLE					1				6	
NORTHERN GOSHAWK					1		1		1	
GOLDEN EAGLE					1					2
MERLIN	4				1					1
GRAY PARTRIDGE	45	31	30		59	30				189
RING-NECKED PHEASANT					7					1
RUFFED GROUSE						11	3	1	2	
SHARP-TAILED GROUSE	61	1	8		42	1			54	16
ROCK DOVE	1625	44		38	47		4	25		197
GREAT HORNED OWL	11	1	1	3	8	+				+
SNOWY OWL		3				+				1
DOWNY WOODPECKER	29			1	14	24	+	3	2	4
HAIRY WOODPECKER	33	1			18	22	+	2	3	3
NORTHERN FLICKER (Y-s)	25				3					
PILEATED WOODPECKER						+			2	
HORNED LARK	3		33	15	261					6
GRAY JAY						17			18	
BLUE JAY	111	2			3	25		8	11	
BLACK-BILLED MAGPIE	670	61	3	29	133	35	13	17	23	84
AMERICAN CROW	5									
COMMON RAVEN	18	+				123		5	96	
BLACK-CAPPED CHICKADEE	461	11		4	108	201	6	28	41	4
BOREAL CHICKADEE						18			10	
RED-BREASTED NUTHATCH	207			1	1	4			28	58
WHITE-BREASTED NUTHATCH	5					23				
AMERICAN ROBIN	32	+				+				1
BOHEMIAN WAXWING	954	88		150	105		+	153		75
CEDAR WAXWING	125									
NORTHERN SHRIKE	1				2					
EUROPEAN STARLING	134	10			2					6
DARK-EYED JUNCO	18				3		1			10
SNOW BUNTING	226	10		107	3610	62		25	128	539
RUSTY BLACKBIRD					30					
PINE GROSBEAK	45					187		11	105	3
PURPLE FINCH	7									
HOUSE FINCH	42									9
WHITE-WINGED CROSSBILL	447	18				3	1	3	147	4
COMMON REDPOLL	870	92		8	13	248		41	211	17
HOARY REDPOLL	3	1				15		2	1	
PINE SISKIN	114			6	11	+	1			11
EVENING GROSBEAK						464	1	16	7	
HOUSE SPARROW	2346	338	515	193	251	100	40	19	52	819
INDIVIDUALS IN TABLES 4 & 5	16	1	0	1	25	9	0	0	65	6
SPECIES IN TABLES 4 & 5	8	1	0	1	9	4	0	0	4	4
NO. SPECIES COUNT DAY	40	17	6	13	35	23	10	16	26	29
NO. SPECIES COUNT PERIOD	42	19	6	13	35	29	13	16	26	30
NO. INDIVIDUALS COUNT DAY	8935	713	590	556	4760	1622	71	359	1258	2068

Table 3-9: SPECIES RECORDED FROM MORE THAN SIX LOCALITIES
 (+ = species seen during the count period but not on count day)

SPECIES	LOCATION AND DATE									
	81. TISDALE December 27	82. TURTLE LAKE December 27	83. WEYBURN December 16	84. WHITE BEAR December 26	85. WHITEWOOD December 16	86. YORKTON December 30		Number of Counts Count Day	Number of Counts Count Period	Total Individuals Count Day
CANADA GOOSE								7	9	1004
MALLARD						6		13	13	12217
COMMON GOLDENEYE								13	13	620
BALD EAGLE					1			12	13	33
NORTHERN GOSHAWK				+				11	15	13
GOLDEN EAGLE			2	4				19	22	31
MERLIN			+	+	1	1		10	13	13
GRAY PARTRIDGE			246	69	+			42	48	1978
RING-NECKED PHEASANT			36	+				15	17	120
RUFFED GROUSE		1			2			27	33	109
SHARP-TAILED GROUSE			93	+	46			45	50	1334
ROCK DOVE		5	151	175	76	104		52	54	5996
GREAT HORNED OWL	1		6		1			35	45	87
SNOWY OWL			6	+				23	30	58
DOWNY WOODPECKER	1	3	1	+	13	1		63	66	307
HAIRY WOODPECKER		1	1		11	3		59	62	339
NORTHERN FLICKER (Y-s)			+					6	8	33
PILEATED WOODPECKER						1		7	12	16
HORNED LARK			3	2				29	29	3612
GRAY JAY	1	5						25	26	152
BLUE JAY	2	37			3	2		52	55	635
BLACK-BILLED MAGPIE	2	21	51	61	82	17		78	78	3943
AMERICAN CROW								6	8	16
COMMON RAVEN	4	19			14	14		53	54	1408
BLACK-CAPPED CHICKADEE	6	48	6		269	48		73	73	3411
BOREAL CHICKADEE		7						11	12	111
RED-BREASTED NUTHATCH		3	5		12	9		42	44	660
WHITE-BREASTED NUTHATCH		6	2		3	2		33	33	198
AMERICAN ROBIN						1		10	14	72
BOHEMIAN WAXWING			+	30	47	211		38	46	5040
CEDAR WAXWING								6	7	267
NORTHERN SHRIKE			+		+			12	15	20
EUROPEAN STARLING			39	5	13			27	29	601
DARK-EYED JUNCO			3		+	1		21	26	438
SNOW BUNTING			400	45	86			59	62	16021
RUSTY BLACKBIRD			1		2			9	10	54
PINE GROSBEAK		86			2	52		56	57	1939
PURPLE FINCH			4		+			5	7	19
HOUSE FINCH			14		+			5	7	143
WHITE-WINGED CROSSBILL		4	+	+	+	70		31	38	1384
COMMON REDPOLL		66	160	+	130	203		70	74	7902
HOARY REDPOLL			3		11	5		20	22	122
PINE SISKIN		1	17		11			25	27	906
EVENING GROSBEAK		33			+			38	41	2194
HOUSE SPARROW	6	22	604	250	465	175		73	73	16919
INDIVIDUALS IN TABLES 4 & 5	0	8	4	1	1	1				
SPECIES IN TABLES 4 & 5	0	3	4	4	2	1				
NO. SPECIES COUNT DAY	8	21	27	10	24	21				
NO. SPECIES COUNT PERIOD	8	21	33	21	32	21				
NO. INDIVIDUALS COUNT DAY	23	376	1858	642	1302	927				

Table 4: SPECIES SEEN ON SIX OR FEWER COUNTS	
SPECIES	LOCATION AND NUMBER
GREEN-WINGED TEAL	Estevan (1), Saskatchewan Landing P.P. (1)
AMERICAN BLACK DUCK	Coronach (1), Regina (1)
AMERICAN WIGEON	Coronach (1)
REDHEAD	Fort Qu'Appelle (1)
RING-NECKED DUCK	Fort Qu'Appelle (+)
LESSER SCAUP	Coronach (7), Estevan (2)
WHITE-WINGED SCOTER	Pike Lake (1)
BUFFLEHEAD	Coronach (1)
HOODED MERGANSER	Estevan (2)
COMMON MERGANSER	Gardiner Dam (438), Squaw Rapids (1)
COOPER'S HAWK	Regina (1), Round Lake (Qu'Appelle Valley) (+), Saskatoon (+)
HARLAN'S RED-TAILED HAWK	White Bear (1)
ROUGH-LEGGED HAWK	Fort Walsh (1), Round Lake (Qu'Appelle Valley) (1)
AMERICAN KESTREL	Skull Creek (1)
PEREGRINE FALCON	Skull Creek (1)
GYRFALCON	Gardiner Dam (1), Kilwinning (1), Saskatoon (+), White Bear (+)
PRAIRIE FALCON	Grasslands National Park (1), Rockglen-Borderland (+), Skull Creek (1), White Bear (+)
SPRUCE GROUSE	Christopher Lake (1), LaRonge (+), MacDowall (2), Snowden (1), Squaw Rapids (2), Turtle Lake (6)
SAGE GROUSE	Govenlock (12), Grasslands National Park (15)
WILD TURKEY	Fort Walsh (19)
AMERICAN COOT	Coronach (4), Estevan (1)
COMMON SNIBE	Fort Walsh (1)
EASTERN SCREECH-OWL	Estevan (1)
NORTHERN HAWK-OWL	Armit (2), Candle Lake (1), Fort Qu'Appelle (+), Kutawagan Lake (1)
BARRED OWL	Kamsack (2)
GREAT GRAY OWL	Bangor (+), Candle Lake (2), Meadow Lake (1), Prince Albert National Park (1), Snowden (+)
LONG-EARED OWL	Skull Creek (1)
SHORT-EARED OWL	Govenlock (1), Rockglen-Borderland (+), White Bear (+), Whitewood (+)
NORTHERN SAW-WHET OWL	Leader (north) (+)
LEWIS' WOODPECKER	Fort Qu'Appelle (1)
THREE-TOED WOODPECKER	Armit (1), Fort Walsh (1), Love-Torch River (+), Prince Albert National Park (3), Snowden (2), Turtle Lake (1)
BLACK-BACKED WOODPECKER	Armit (1), Kinloch (1), Prince Albert National Park (3), Scott (1), Snowden (6)
NORTHERN FLICKER (R-s)	Leader (south) (1), Regina (1)
BROWN CREEPER	Emma Lake (+), Fort Walsh (2), Saskatoon (3), Swift Current (3)
GOLDEN-CROWNED KINGLET	Armit (1), Clark's Crossing (3), Fort Walsh (6), Saskatoon (4), Squaw Rapids (2), Swift Current (2)
VARIED THRUSH	Emma Lake (+), Saskatoon (1)
ROSE-BREASTED GROSBEAK	Love-Torch River (1)
RUFIOUS-SIDED TOWHEE	Skull Creek (1)
AMERICAN TREE SPARROW	Fort Walsh (2), Govenlock (6), Grasslands National Park (1), Kindersley (3), Raymore (+), Skull Creek (8)
SONG SPARROW	Turtle Lake (1)
LINCOLN'S SPARROW	Broadview (1)
WHITE-THROATED SPARROW	Kinloch (+), Saskatoon (1), Weyburn (2)
HARRIS' SPARROW	Kamsack (1), Leader (south) (1), Prince Albert (+), Skull Creek (10), Swift Current (1)
LAPLAND LONGSPUR	Coronach (17), Estevan (35), Fife Lake (4200), Govenlock (1), Last Mountain Lake N.W.A. (1), Rockglen-Borderland (110)
RED-WINGED BLACKBIRD	Biggar (1), Coronach (1), Fort Qu'Appelle (+), Skull Creek (1), Yorkton (1)
WESTERN MEADOWLARK	Fort Walsh (1), Qu'Appelle Valley Dam (1)
YELLOW-HEADED BLACKBIRD	Moose Jaw (+)
BREWER'S BLACKBIRD	Biggar (1), Clark's Crossing (1), Saskatoon (1), Weyburn (1), Whitewood (1)
COMMON GRACKLE	Cabri (1), Kutawagan Lake (2), Prince Albert (1), Swift Current (2), Weyburn (1)
ROSY FINCH	Govenlock (4)
RED CROSSBILL	Armit (4), Fort Walsh (16), Regina (8), Saskatoon (6), Squaw Rapids (1), Weyburn (+)
AMERICAN GOLDFINCH	Craven (2), Shaunavon (1)

Table 5: COMPARISON OF THE 1995 POPULATIONS TO 1994 AND AVERAGE PAST YEARS (1990-1994) BASED ON PARTY HOURS PER INDIVIDUAL BIRD SEEN					
SPECIES	95 vs 94	95 vs 5YR	SPECIES	95 vs 94	95 vs 5YR
CANADA GOOSE	-77.3	-51.6	COMMON RAVEN	-29.6	-12.7
MALLARD	-63.1	-10.6	BLACK-CAPPED CHICKADEE	14.2	23.7
COMMON GOLDENEYE	-54.9	-26.3	BOREAL CHICKADEE	-13.3	10.2
BALD EAGLE	-81.8	-54.5	RED-BREASTED NUTHATCH	727.5	291.0
NORTHERN GOSHAWK	27.8	-37.4	WHITE-BREASTED NUTHATCH	35.9	43.2
GOLDEN EAGLE	-58.6	-41.8	BROWN CREEPER	-21.4	9.3
MERLIN	-48.6	-1.0	GOLDEN-CROWNED KINGLET	-65.3	-39.2
PRAIRIE FALCON	-73.8	-79.1	AMERICAN ROBIN	13.7	20.2
GRAY PARTRIDGE	173.0	57.1	BOHEMIAN WAXWING	-65.0	-23.4
RING-NECKED PHEASANT	41.4	-17.7	CEDAR WAXWIN	-85.6	-61.8
SPRUCE GROUSE	-32.1	19.7	NORTHERN SHRIKE	-36.9	-30.8
RUFFED GROUSE	-17.3	25.1	EUROPEAN STARLING	-10.2	102.5
SHARP-TAILED GROUSE	79.4	19.8	AMERICAN TREE SPARROW	-31.3	-41.4
ROCK DOVE	-30.1	-6.1	DARK-EYED JUNCO	416.3	281.4
GREAT HORNED OWL	-43.7	-23.6	LAPLAND LONGSPUR	8742.3	134.9
SNOWY OWL	-55.6	-32.9	SNOW BUNTING	-56.0	-32.2
SHORT-EARED OWL	-96.6	-94.8	RED-WINGED BLACKBIRD	-77.4	-76.7
DOWNY WOODPECKER	23.6	9.8	RUSTY BLACKBIRD	85.4	68.8
HAIRY WOODPECKER	16.3	21.0	PINE GROSBEAK	46.6	95.1
THREE-TOED WOODPECKER	-21.4	11.7	RED CROSSBILL	358.6	13.6
NORTHERN FLICKER	-54.3	8.8	WHITE-WINGED CROSSBILL	0.0	536.3
PILEATED WOODPECKER	-56.5	-40.2	COMMON REDPOLL	497.4	118.6
HORNED LARK	286.3	-13.6	HOARY REDPOLL	0.0	13.1
GRAY JAY	-18.9	7.4	PINE SISKIN	-100.0	-100.0
BLUE JAY	15.7	25.9	EVENING GROSBEAK	24.2	11.3
BLACK-BILLED MAGPIE	-6.2	8.6	HOUSE SPARROW	-26.1	-16.4

Table 6: SUMMARY OF NEW OR TYING HIGH COUNTS ESTABLISHED DURING THE 1995 COUNTS (tying counts regular type; boldface/italic indicates a new record)				
LOCATION	1995 COUNT	SPECIES	PREVIOUS HIGH	LOCATION AND YEAR
<i>Gardiner Dam</i>	438	Common Merganser	274	Gardiner Dam '90
Regina	1	Cooper's Hawk	1	N to Battleford
<i>White Bear</i>	1	<i>Harlan's Red-tailed Hawk</i>	NEW	
Skull Creek	1	Peregrine Falcon	1	N to Squaw Rapids-Carrot River
Estevan	1	Eastern Screech-Owl	1	Yorkton '85
Kamsack	2	Barred Owl	2	Squaw Rapids '88
<i>Fort Qu'Appelle</i>	1	<i>Lewis' Woodpecker</i>	NEW	
Snowden	6	Black-backed Woodpecker	6	Squaw Rapids '85
<i>Saskatoon</i>	25	<i>Northern Flicker</i>	22	<i>Saskatoon '94</i>
<i>Saskatoon</i>	111	<i>Blue Jay</i>	86	<i>Saskatoon '91</i>
<i>Saskatoon</i>	670	<i>Black-billed Magpie</i>	587	<i>Saskatoon '90</i>
<i>Saskatoon</i>	461	<i>Black-capped Chickadee</i>	390	Saskatoon '91
<i>Saskatoon</i>	207	<i>Red-breasted Nuthatch</i>	88	<i>Fort Walsh '82</i>
<i>Snowden</i>	23	<i>White-breasted Nuthatch</i>	15	<i>Round Lake '84, Kamsack '92</i>
[CP: Emma Lake], Saskatoon	1	Varied Thrush	1	N to Saskatoon
<i>Love-Torch River</i>	1	<i>Rose-breasted Grosbeak</i>	NEW	
Skull Creek	1	Rufous-sided Towhee	1	N to Leader
Broadview	1	Lincoln's Sparrow	[1]	[CP: Whitewood '92, Weyburn '93]
<i>Grasslands N. Park (NW)</i>	250	<i>Dark-eyed Junco</i>	102	<i>Swift Current '93</i>
<i>Moose Jaw</i>	1	<i>Yellow-headed Blackbird</i>	NEW	
<i>Moose Jaw</i>	44	<i>House Finch</i>	22	<i>Weyburn '93</i>
<i>Saskatoon</i>	447	<i>White-winged Crossbill</i>	230	<i>Emma Lake '75</i>
<i>Prince Albert</i>	214	<i>Pine Siskin</i>	70	<i>Saskatoon '81</i>
<i>Craven</i>	2	<i>American Goldfinch</i>	1	<i>N to Prince Albert</i>

Table 7: BIRDS NOT IDENTIFIED TO SPECIES	
SPECIES	LOCATION AND NUMBER
HAWK species	Qu'Appelle Valley Dam (1)
LARGE FALCON species	Skull Creek (1)
REDPOLL species	Armit (29), Craven (30), Fort Walsh (35), Grasslands National Park (30), Last Mountain Lake N.W.A. (31), Raymore (250), Regina (13), Squaw Rapids (59)
BIRD species	Grasslands National Park (NW) (22), Nipawin (9)

1994 Count

The following count was received too late for inclusion in the 1994 compilation.

LOVE-TORCH RIVER. Weather: Temp. -25 to -20°C, Wind 0 to 10 kmph, Snow depth 50 - 60 cm, Skies clear. Effort: 35 km by automobile in 2 hours and 10 hours at feeders. Habitat coverage: 26-50% mixedwood forest, <5% cultivated fields, 5-25% farmyards, 5-25% urban. Bird Species: Northern Goshawk +, Spruce Grouse 2, Ruffed Grouse 5, Rock Dove 37, Downy Woodpecker 7, Hairy Woodpecker 12, Three-toed Woodpecker +, Black-backed Woodpecker +, Pileated Woodpecker 1, Gray Jay 11, Blue Jay 15, Black-billed Magpie 16, Common Raven 16, Black-capped Chickadee 61, White-breasted Nuthatch 7, Dark-eyed Junco +, Snow Bunting 116, Red-winged Blackbird 1, Pine Grosbeak 36, Evening Grosbeak 160, House Sparrow 13. Mammal species: Red Squirrel 3, Red Fox 2, White-tailed Deer 14. Observers: *Bert Dalziel* (compiler), Joan Dalziel, Kari Dalziel, Sara Dalziel, Betty Donovan, Bruce Donovan, Sean Donovan, George Lidster, Jean Lidster, Bill Matthews, Lynn Matthews. (11)



Biological diversity — “biodiversity” in the new parlance — is the key to the maintenance of the world as we know it. Life in a local site struck down by a passing storm springs back quickly because enough diversity still exists. Opportunistic species evolved for just such an occasion rush in to fill the spaces. They entrain the succession that circles back to something resembling the original state of the environment. *E.O. Wilson, 1992. The diversity of life. W.W. Norton and Company, New York. 424 pp.*

COMMON GRACKLES ANTING WITH "WEED AND FEED" LAWN CHEMICALS

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Birds sometimes apply ants to their plumage in a frenzied preening-like manner, a behaviour called "anting." The same term is used when birds apply, in much the same way, other insects or substances of any nature. The list of such materials is long. Whitaker lists: "fruits, foliages, raw onion, burning matches or tobacco, ... hair tonic, prepared mustard, vinegar, hot chocolate, and moth balls" as well as other insects.¹⁰ Whitaker concluded that these substitute items were all "thermogenic," causing a warming or burning sensation, not unlike the formic acid given off by most ants when handled. The known list of thermogenic substances used by anting birds continues to grow, but the basis for this behaviour is not altogether clear.^{4,5,6,8} That birds can detect certain chemicals by taste as well as smell has been documented by several authors.^{1,2,3,4,7} Clark *et al.*, in reference to anting birds, note: "The classes of objects or organisms reported in the literature invariably have antimicrobial or insecticidal properties.... We suggest that future studies focusing on anting consider the behavioral capabilities of birds to perceive chemical cues of high biological relevance."²

Whatever the relationship, although lawn chemicals, that is, a mixture of fertilizer and herbicide, are widely used on lawns, there seems to have been no report of birds anting with such material. About 11:00 a.m., 2 July 1995, a bright,

warm day, I applied, for the first time, a commercial fertilizer and herbicide mixture to our lawn. This compound consisted of white, tan and yellowish granules. The trade name was "Canada Way Lawn Weed and Feed" (Vigoro Canada Inc.) 21-7-7 and the contents were described as: total Nitrogen 21.0% with 5.25% derived from sulphur-coated urea; available phosphoric acid (P_2O_5) 7.0%; soluble potash (K_2O) 7.0%; 2,4-D (present as amine salts) 0.56%; and Mecoprop (d-isomer) (present as amine salts) (actual) 0.28%.

Later that day (4:40 p.m.), I noticed three adult Common Grackles anting on the lawn in the shade of a tree at the back of our yard. I assumed that this activity was being elicited by ants, and watched with binoculars while the birds anted vigorously for 15 minutes. After the birds left, I examined the site, finding not ants, but instead numerous chemical granules. Apparently the birds had been anting with this material. In turning around the mechanical spreader I had used, an excess amount of chemical had fallen on this spot. As if to prove the point, at 6:20 p.m., two males began anting at a second spillage spot close to our house. This time, I was able to see them pick up the tiny pellets. Once, I saw a pellet drop to the ground after it had been placed under a wing. Twice, pellets were carefully manipulated with the bill before being applied to the plumage. Both birds anted rapidly, applying pellets under



Common Grackle

Ted Muir

the tail, on the shoulder and back, and especially under the wings. One bird did this six times in two minutes. It appeared that extended manipulation of pellets led to vigorous scratching, especially of the bill and chin. Birds kept coming and going; after anting with the chemical, one walked into a nearby flowerbed and onto a known anthill where it actively anted, apparently using ants.

At 7:00 p.m. several grackles gathered in the original spot at the back of the yard. Once again, a frenzy of anting ensued, involving, at one time, nine males. Despite frequent signs of mutual antagonism, at one point eight birds were performing in an area of about 1 m diameter. Birds seemed to be attracted to the sight of one that was anting; one would hurry over to join the other, be repelled, then return, threaten the first, etc. At times the group would break up, then rejoin. The next day was overcast and humid. By now the pellets were

much reduced in size, but still one to five grackles anted on the same sites from 1:00 p.m.-4:30 p.m. Individuals picked up and applied pellets up to 22 times per minute. It was clear that they remembered the two sites on the lawn; single birds returned to our yard and flew or walked directly to the good areas and began anting. For the next several days, though grackles were present, none was observed anting. On 8 July, for example, a dozen grackles, including young which were often begging and being fed, were at our feeders, but no anting occurred. Chemical pellets, though now very small, were still visible.

A week later, wanting to see if anting could deliberately be elicited, I placed some fresh lawn chemical pellets (hereafter: lure) on a small piece of weathered plywood on the lawn near and below a bird feeder. It was hot and humid, but only one grackle came to the feeder and it soon left. The next day, two of six

grackles at the feeder, or below on the ground where some birdseed falls, actually walked on the lure without reacting. On 13 July, one adult male and three juveniles walked right across the lure, again with no reaction. This was puzzling. In mid-afternoon I put some birdseed on the board beside the lure, then watched with dismay when a juvenile grackle stood and ate birdseed beside the lure. At 5:00 p.m., I added birdseed to the other side of the lure, and eventually it worked. At 6:45 p.m., an adult male anted several times, picking up pellets and placing them or rubbing them on its plumage. It stopped when a second male threatened it, returned and anted again on the board, then left when threatened a second time. It seemed that the anting bird elicited aggressive behaviour from the second one, as if the posture of anting, lifting its wings, etc., provoked aggression. (Often the grackles at the feeder or on the lawn threatened each other, drawing themselves up with spread plumage, bills upward, etc., in typical agonistic display. Yet they kept together as a group.) During this period of observation, an adult female twice walked over the lure to get at the birdseed. It was clear that the birds had no difficulty distinguishing the birdseed from the adjacent lure material. At 7:00 p.m., another (?) adult male stepped on the board and vigorously anted with the lure.

The next day (14 July), another hot, bright day, despite as many as 12 grackles at the feeder, and near or on the board, anting was not observed. Birds walked on the lure, at times picking up birdseed right beside the chemical pellets. At midday, I added fresh chemical, thinking that this might heighten the effect, but nothing happened. Again, some birds walked on the fresh lure to feed

on the seeds. I concluded that the chemical doesn't always attract them or compel them to ant. Nor were other birds affected; Blue Jays, House Sparrows and Mourning Doves at times came close to the lure, but showed no response.

On 15 July, a warm, cloudy day, at 11:00 a.m. nine grackles were present, including an adult male that was anting vigorously on the board. It was stroking its wings above and below, its back, tail and even its legs. It kept other males away from the board for about five minutes, then it stopped and ate some birdseed. At 1:45 p.m., I added fresh chemical lure to the board. Within the next hour, 12 grackles, two doves, a Gray Squirrel and two Eastern Chipmunks fed nearby. Again, one grackle stood on the lure while feeding. The day was hot (30°C) and bright, and two grackles were sunbathing. At 3:05 p.m., one fed on the board, then a second one walked on the lure to feed — it anted once, then went to the nearby birdbath to drink. Shortly, this bird returned and walked on the lure to feed on the adjacent birdseed. At 6:20 p.m., with 10 grackles present, including several juveniles, an adult fed beside the board while a juvenile fed on the opposite side. Finally, a Blue Jay stood right on the lure while it ate some birdseed.

I made one more attempt to elicit anting with the lure. On 16 July, at 7:30 p.m., several grackles vied with each other for a spot on the lure board in order to ant! Up to three adult males were anting vigorously at one time at close quarters. The group of four adult males and two juveniles dispersed when a Red Squirrel dashed towards them.

The fact that the grackles didn't always react to the lure chemical

suggests that the anting compulsion partly depends upon a bird's inner state. Several authors have pointed to season, weather, ectoparasite load, sensual pleasure, moult condition, etc., as factors influencing anting.^{2,4,5,9,10} The grackles I observed were actively moulting, a number of shed feathers being found in our yard.

Clearly, some portion of the "Weed and Feed" material stimulates anting behaviour in the Common Grackle. The nature of that substance, and the particular conditions under which it has a positive effect on birds, remain unanswered. "Weed and Feed" material offers another basis for possible experiments leading to a further understanding of this aspect of bird behaviour.

Acknowledgements Thanks are owing John V. Dennis, Anne James and Harry Wright, for responding to my query regarding birds using lawn chemicals. Gordon G. Graham reviewed the manuscript and assisted with the typing.

1. BUITRON, D., and G.L. NUECHTERLEIN. 1985. Experiments on olfactory detection of food caches by Black-billed Magpies. *Condor* 87:92-95.

2. CLARK, C.C., CLARK, L., and L. CLARK. 1990. "Anting" behaviour by Common Grackles and European Starlings. *Wilson Bull.* 102:167-169.
3. CLARK, L., and J.R. MASON. 1985. Use of nest material as insecticidal and anti-pathogenic agents by European Starlings. *Oecologia* 67:169-176.
4. CLAYTON, D.H., and J.G. VERNON. 1993. Common Grackle anting with lime fruit and its effect on ectoparasites. *Auk* 110:951-952.
5. DENNIS, J.V. 1981. Beyond the bird feeder. Alfred A. Knopf, Inc., N.Y. 201 pp.
6. ——. 1985. Commentary on grackles anting with marigold blossoms. *Blue Jay* 43:175-177.
7. MASON, J.R., and L. CLARK. 1986. Chemoreception and the selection of green plants as nest fumigants by starlings. Pp. 369-384 in *Chemical signals in vertebrates 4* (D. Duvall *et al.*, eds.). Plenum Publ. Corp.
8. NERO, R.W., and D.R.M. HATCH. 1984. Common Grackles anting with marigold flowers. *Blue Jay* 42:212-214.
9. POTTER, E.F., and D.C. HAUSER. 1974. Relationship of anting and sunbathing to moulting in wild birds. *Auk* 91:537-563.
10. WHITAKER, L.M. 1957. A resumé of anting, with particular reference to a captive Orchard Oriole. *Wilson Bull.* 69:195-262.



One fifth of the species of birds worldwide have been eliminated in the past two millenia, principally following human occupation of islands. Thus instead of 9,040 species alive today, there probably would have been about 11,000 species if left alone. According to a recent study by the International Council for Bird Preservation, 11 percent or 1,029 of the surviving species are endangered. *E.O. Wilson, 1992. The diversity of life. W.W. Norton and Company, New York. 424 pp.*

APPARENT DECLINE OF MIGRANT COMMON NIGHTHAWKS NEAR PINAWA, MANITOBA

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Concern about declining numbers of Common Nighthawks led to inclusion of this species on the *American Birds* Blue List in 1976.¹ The Common Nighthawk breeds in both urban and wilderness settings. Breeding populations in forested regions are difficult to monitor. Activity falls off rapidly at daybreak, so that nighthawks are underrepresented on Breeding Bird Survey (BBS) runs. For example, I have recorded grand totals of only eight Common Nighthawks on 18 runs of the Bird River BBS route in southeastern Manitoba 1978-95, and 12 on seven runs of the neighbouring Springer Lake BBS route 1989-95. Urban nighthawk populations are somewhat more amenable to monitoring. Wedgwood recently reported an apparent three-fold decline in breeding density of Common Nighthawks in Saskatoon, from one male per 1.4 km² in 1971 to one per 3.8 km² in 1990.⁹

Ewins and Carley described concentrations of hundreds of foraging Common Nighthawks during fall migration, 23-24 August 1992 in Toronto.^{3,5} Comparable observations in southeastern Manitoba date back at least to 1928, although published details are sparse.⁷ Flocks of Manitoba birds may contribute to the immense concentrations (over 10,000 birds) that have been reported in August at Duluth, Minnesota.^{2,6}

Shortly after moving to Pinawa in 1975 I noted that, during August, nighthawk flocks occurred regularly near the Pinawa sewage lagoons and, to a lesser extent, over the town

itself. Peak counts of over 100 birds were noted annually between 1976 and 1981. My record keeping was more sporadic between 1982 and 1991 but I gained the impression that numbers were lower than in previous years. This prompted a more systematic evening survey of nighthawk flocks near the sewage lagoons between 1992 and 1995. This survey provided more convincing evidence of a decline in numbers. The results are presented here along with information that might be helpful in developing survey methods elsewhere.

Study Area and Methods The Pinawa sewage lagoons are located about 1 km west of the town in a large clearing of the forest alongside the Winnipeg River. This situation permits unobstructed scanning of the sky down to low elevations, and actively foraging nighthawks can be detected with binoculars up to about 1 km away in all directions. Counting erratically flying nighthawks is a challenge but accurate counts (repeatable within 5-10%) are possible through 360° binocular scans of loose flocks of up to about 100 birds. Estimation becomes much more difficult for larger or tightly concentrated flocks.

As a rule, nighthawk numbers build up rapidly around sunset and peak shortly before fading light starts to hamper observation. For example, on 22 August 1994 one nighthawk appeared at 8:21 p.m., numbers increased to 30 by 8:37, and remained in the low 20s until light started to fail at 8:50. The birds appear to disperse



Common Nighthawk

again as darkness falls; they rarely vocalize. The exact locations where they concentrate vary from evening to evening, presumably as insect concentrations respond to weather changes. Sometimes the nighthawks mingle with, or replace, flocks of diurnal insect-catchers, such as swallows, Black Terns, and Bonaparte's Gulls.⁸

Occasionally, numbers of nighthawks appear much earlier in the evening and build up more slowly until dusk, much as described by Ewins.⁵ For example, on 23 August 1977, numbers increased from 13 at 6:30 p.m. to 54 at 7:40 p.m. and 125 at 8:30 p.m. I suspect that this different pattern is associated with active migration as opposed to foraging by birds that have roosted locally and may be regarded as staging in the area. This is roughly consistent with the reported timing of heavy migrations at Duluth, Minnesota, as well as the Toronto observations cited above.^{2,3,5,6} Ken De Graaf reported a concentration of hundreds of Common Nighthawks about 30 km north of The Pas, Manitoba at 3 p.m. on 8 August 1977.⁴

Results In the following discussion all counts are totals of individuals visible at one time. It is difficult to estimate numbers of birds entering and leaving a concentration. On most evenings birds drifted in from the north either singly or in small groups, and formed loose foraging flocks. Only occasionally were birds obviously migrating; they typically headed east or southeast, often following the Winnipeg River.

Prior to 1992, Common Nighthawk counts at the Pinawa lagoons were noted during general bird observations which often finished before dusk. Between 1992 and 1995 I conducted deliberate nighthawk surveys and recorded maximum counts just before dark when activity usually peaked. Thus, if nighthawk numbers remained stable between 1977 and 1994, higher counts overall might be expected in the deliberate surveys than in the more casual observations. In fact, the reverse was true.

Concentrations of 10 or more Common Nighthawks have been observed at the Pinawa sewage

Table 1: COMMON NIGHTHAWKS AT PINAWA, MANITOBA SEWAGE LAGOONS FROM 11-25 AUGUST		
Number Observed	1976-1981	1992-1995
0-5	5	7
6-10	0	5
11-20	0	12
21-50	3	8
51-100	5	2
101+	8	0
Total	21	34

lagoons on dates between 12 July and 4 September and 100 or more from 3 August to 4 September. The highest counts were usually recorded from 11-25 August. In Tables 1 and 2 counts are summarized for 21 dates from 1976-81 and 34 dates from 1992-95, all from 11-25 August. The 1992 and 1993 surveys were scattered more or less uniformly through the 15-day reporting period, the 1994 surveys were run on 10 consecutive evenings (15-24 August) and the 1995 surveys were run almost daily through August.

Eight counts from 11-25 August and 12 counts in total exceeded 100 birds between 1976 and 1981. The highest were estimates of 300 birds on each of 14 August 1979 and 18 August 1980. In contrast, the largest concentration observed between 1992 and 1995 was 68 birds on 23 August 1993 and only three counts reached or exceeded 50 birds.

These results indicate roughly a three- to five-fold decline in fall migrant Common Nighthawk numbers in the Pinawa area between the late 1970s and the early 1990s. More detailed analysis is not possible because the earlier surveys were not systematic. Surveys such as this from one location may only reflect subtle changes in local conditions rather than regional trends. This is especially true for migration counts, as compared with breeding bird surveys. Nevertheless, it is disturbing

that these findings closely resemble those of the urban breeding survey in Saskatoon.⁹ They support a general impression of widespread decline in Common Nighthawk numbers.

Swallow counts at the Pinawa sewage lagoons do not show a similar decline to nighthawk numbers. Concentrations of 20 to 100 birds (mainly Barn and Cliff Swallows) were frequently observed, with occasional peaks of 200 to 250 birds, during both periods of observation (1976-81 and 1992-95). These were usually high-flying, foraging flocks in the same general area as the nighthawks. Therefore, it is unlikely that the reduction in nighthawk numbers is related to availability of flying insects.

If both urban and (presumed) boreal nesting populations of nighthawks are declining, the cause may lie in the wintering range. Both Common Nighthawks and Whip-poor-wills are frequently killed on secondary roads in the boreal forest of southeastern Manitoba. Analysis of road-killed specimens for pesticide residues could help to evaluate one possible cause of decline.

Although there is evidence of a marked reduction in migrant nighthawk numbers in southeastern Manitoba since the late 1970s, some recent sightings of active migration are impressive. Around 6:00 p.m. on 23 August 1993 Rudolf Koes observed

Table 2: COMMON NIGHTHAWK COUNTS AND MAXIMA AT PINAWA, MANITOBA SEWAGE LAGOONS FROM 11-25 AUGUST		
Year	Number of Counts	Maximum (Day)
1976	5	145 (12th)
1977	6	130 (24th)
1978	4	30 (16th)*
1979	3	300 (14th)
1980	3	300 (18th)
1981	1	100 (18th)
1992	6	52 (15th)
1993	5	68 (23rd)
1994	10	30 (22nd)
1995	12	34 (20th)
*110 on 8 August		

over 400 Common Nighthawks, many of them heading east-south-east, between Beausejour and Pinawa, Manitoba (a distance of 60 km). Later that evening, a steady, dispersed flight was noted over Pinawa while earlier in the day, Paula Grief and Victor Fazio estimated 1,300 nighthawks passing Delta, Manitoba heading southeast. A heavy movement was also noted in the southern Interlake region of Manitoba on 18 August 1995 when Ken Gardner saw at least 625 nighthawks at Stonewall and Jerry Weshnoweski saw at least 600 at Gimli.

The spring migration record is too erratic to provide any comparable information. Spring counts of Common Nighthawks in the Pinawa area rarely exceed 10 birds. An exceptional concentration of up to 160 birds at the Pinawa lagoons from 24-27 May 1992 was a “fallout” phenomenon linked to inclement weather and coincided with exceptional concentrations of up to 45 Eastern Kingbirds and 180 Black Terns at the same location.

Finally, I note that the Common Nighthawk has probably disappeared as a breeding bird in Pinawa. Around 1980 a few nighthawks were regularly heard over the town on summer

evenings. They were thought to be nesting on flat-roofed buildings.⁷ There have been no such observations in recent years.

Acknowledgements I thank Rudolf F. Koes for information and helpful comments.

1. ARBIB, R.S. 1976. The Blue List for 1976. *Am. Birds* 29:1067-1072.
2. CAMPBURN, K.E. 1986. Common Nighthawk migration along the north shore in Duluth. *Loon* 58:197.
3. CARLEY, J.R. 1993. More on Common Nighthawk migration. *Ont. Birds* 11:82.
4. DE GRAAF, K. 1978. Large concentration of Common Nighthawks. *Blue Jay* 36:122.
5. EWINS, P.J. 1993. Common Nighthawks foraging in large flocks on migration. *Ont. Birds* 11:75-77.
6. HENDRICKSON, M. and K. ECKERT. 1991. A record movement of Common Nighthawks. *Loon* 63:68-69.
7. TAYLOR, P. 1983. Wings along the Winnipeg: the birds of the Pinawa - Lac du Bonnet region, Manitoba. Eco Series No. 2, Manitoba Naturalists Society, Winnipeg. 216 pp.
8. TAYLOR, P. 1993. Migration of Bonaparte's Gull, *Larus philadelphia*, in southeastern Manitoba. *Can. Field-Nat.* 107:314-318.
9. WEDGWOOD, J. 1992. Common Nighthawks in Saskatoon. *Blue Jay* 50:211-217.

THE FIRST RECORD OF THE MARBLED MURRELET FOR ALBERTA IS OF THE ASIATIC FORM

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On 28 July 1994 an Alberta Fish and Wildlife officer from Grande Prairie left a Marbled Murrelet with the Provincial Museum of Alberta.³ The bird had been found dead on the south-east shore of Saskatoon Lake north of Wembley on 2 July 1994 in an early state of decomposition with numerous pupae and maggots. Because of its condition the bird was prepared as a skeleton (Z94.14.1) and not as a skin as stated in Moore.³ Photographs of the bird were also taken that document the general appearance of the bird.³

The overall dark coloration of the bird and slim bill identify this bird as a Marbled Murrelet in breeding plumage. Its mensural characteristics indicate that it is a large Marbled Murrelet¹: total length, 285 mm; wing length (not flattened), 141 mm; bill length, 21.5 mm. According to the data in Sealy *et al.*,⁴ these values clearly identify the bird as belonging to the Asiatic subspecies of Marbled Murrelet, *Brachyramphus marmoratus perdix*. This identification is supported in the photographic evidence by the indication of a white eye ring.³

This is the first record of a Marbled Murrelet of any variety for Alberta, and has been accepted by the Alberta Bird Record Committee. Its presence in Alberta is consistent with known patterns of vagrancy of *B. m. perdix*⁵: all 14 previous records of

Marbled Murrelets east of the Rockies have been assigned to this subspecies.^{4,5,6}

The identification of the specimen's subspecies is also of significance as a recent molecular study appears to suggest that the Asiatic and American forms of the Marbled Murrelet may be different species.⁷

1. GODFREY, W.E. 1986. The Birds of Canada. Revised Edition. National Museum of Canada, Ottawa, Ontario.
2. JEHL, D.R. and J.R. JEHL, JR. 1981. A North American record of the asiatic Marbled Murrelet (*Brachyramphus marmoratus perdix*). *American Birds* 35:911-912.
3. MOORE G. 1995. First Marbled Murrelet record for Alberta. *Blue Jay* 53:229.
4. SEALY, S.G., H.R. CARTER, and D. ALISON. 1982. Occurrences of the Asiatic Marbled Murrelet [*Brachyramphus marmoratus perdix* (Pallas)] in North America. *Auk* 99:778-781.
5. SEALY, S.G., H.R. CARTER, W.D. SHUFORD, K.D. POWERS, and C.A. CHASE III. 1991. Long-distance vagrancy of the Asiatic Marbled Murrelet in North America, 1979-1989. *Western Birds* 22:145-155.
6. SIBLY, D. 1993. An Asiatic Marbled Murrelet in Ontario. *Birders Journal* 2:276-277.
7. ZINK, R.M., S. ROHWER, A.V. ANDREEV, and D.L. DITTMANN. 1995. Trans-beringia comparisons of mitochondrial DNA differentiation in birds. *Condor* 97:639-649.

CHECK LIST OF SASKATCHEWAN MOTHS PART 13: DART MOTHS

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Abbreviations used: s = south; n = north; w = west; e = east; DA = Department of Agriculture collection (Saskatoon); CNC = the only Saskatchewan records of the species that we know of are in the Canadian National Collection in Ottawa. (Unless otherwise indicated, all the species are represented in the collection of the Royal Saskatchewan Museum, formerly called the Saskatchewan Museum of Natural History.) The species are arranged according to the *Check List of the Lepidoptera of America North of Mexico* (R.W. Hodges, 1983).

Dart Moths (Noctuidae)

Part B - *Pseudorthosia* to *Ufeus*

Part A was published in 1994 in *Blue Jay* 52(2):91-96. The description of this subfamily of moths was included in Part A.

Yellow Dart - *Pseudorthosia variabilis* Grt. - Maple Creek (CNC).

Flame-shouldered Dart - *Ochropleura plecta* (L.) - s Sask., n to Pelican Narrows and La Ronge.

Lagena Dart - *Protogygia lagena* (Grt.) - Swift Current (CNC).

Enalaga Dart - *Protogygia enalaga* McD. - Rosefield (se of Val Marie).

Exuberant Dart - *Euagrotis exuberans* (Sm.) - Fort Qu'Appelle, and Val Marie.

Black-girdled Dart - *Euagrotis tepperi* (Sm.) - s Sask., n to Fort Qu'Appelle, Last Mountain Lake Wildlife Refuge, and Outlook.

Variegated Cutworm - *Peridroma saucia* (Hbn.) - s Sask., n to Cumberland House and Prince Albert.

Calgary Dart - *Diarsia calgary* (Sm.) - Harlan (ne of Lloydminster), Deschambault Lake, and Cumberland House.

Rubifera Dart - *Diarsia rubifera* (Grt.) - Fort Qu'Appelle and Regina.

Dislocated Dart - *Diarsia dislocata* (Sm.) - s Sask., n to Jay Lake (near Big Sandy Lake).

Rosey Dart - *Diarsia rosaria* (Grt.) - s Sask., n to Shoal Lake.

Freeman's Dart - *Diarsia freemani* Hdwk. - s Sask., n to Aylsham.

Bracketed Dart - *Protexarnis balantiss* (Grt.) - s Sask., n to Aylsham.

Finnish Dart - *Actebia fennica* (Tausch.) - s Sask., n to Shoal Lake.

Quadrangled Dart - *Rhyacia quadrangula* (Zett.) - reported for Saskatchewan by D. Lafontaine.

Clandestine Dart - *Spaelotis clandestina* (Harr.) - s Sask., n to Aylsham.

Undescribed Species - *Spaelotis* sp. (near *S. havilae* (Grt.)) - sw Sask., n to Fort Qu'Appelle, Regina and Old Wives Lake.

Soothsayer Dart - *Graphiphora haruspica* (Grt.) - throughout Sask.

Great Gray Dart - *Eurois occulta* (L.) - s Sask., n to Cumberland House, Deschambault Lake (s end) and La Ronge.

Great Brown Dart - *Eurois astricta*



Finnish Dart *Actebia fennica* (Tausch.)

RSM collection, K. Roney

Morr. - s Sask., n to Cumberland House, Deschambault Lake (s end), and La Ronge.

Black-lettered Dart - *Xestia adela* Franc. - s Sask., n to Cumberland House.

Norman's Dart - *Xestia normaniana* (Grt.) - s Sask., n to Cumberland House.

Spotted Clay Dart - *Xestia smithii* (Snell.) - s Sask., n to La Ronge.

Ruby Dart - *Xestia oblata* (Morr.) - s Sask., n to Baldy Lake, Nipawin Prov. Park.

Bottom-striped Dart - *Xestia substri-gata* (Sm.) - Aylsham (DA), and Saskatoon (National Research Council).

Pink-spotted Dart - *Xestia bicarnea* (Gn.) - s Sask., n to Tantallon, and Fort Qu'Appelle.

Hair-pin Dart - *Xestia tenuicula* (Morr.) - s Sask., n to Cumberland House and Mont Nebo.

Collared Dart - *Xestia collaris* (G.& R.) - s Sask., n to Aylsham and Prince Albert.

Subarctic Dart - *Anomogyna fabu-losa* Fgn. - Patterson Lake (ne cor-ner of Sask.) and Wildcat Hill Wilder-ness Area.

Frosted Dart - *Anomogyna speciosa mixta* (Wlk.) - Deschambault Lake (s end) (CNC).

Gray Spruce Cutworm - *Anomogyna perquiritata* (Morr.) - reported by Prentice for area of Hudson Bay, Prince Albert, and Chitek Lake, and Harlan (ne of Lloydminster)(CNC).

Outward-streaked Dart - *Anomogyna homogena* McD. - Anglin Lake.

Brown Spotted Dart - *Anomogyna imperita* (Hbn.) - Hudson Bay and Weekes.

Chameleon Caterpillar - *Anomogyna elimata* (Gn.) - Maurice Street Sanc-tuary (e of Nipawin), Prince Albert, and Meadow Lake area.

Blueberry Dart - *Eugraphe subrosea opacifrons* (Grt.) - reported for Sas-katchewan by Lafontaine.

Labrador Dart - *Paradiarsia littoralis* (Pack.) - s Sask., n to Cumberland House, Prince Albert, and Loon Lake.



Great Gray Dart *Eurois occulta* (L.)

RSM collection, K. Roney

Bog Dart - *Hemipachnobia subporphyrea monochromatea* (Morr.) - Weekes.

Willow Dart - *Metalepsis salicarum* (Wlk.) - Karnsack, Somme, Weekes, Aylsham, and Cypress Hills.

Base-streaked Dart - *Aplectoides condita* (Gn.) - Weekes, Wildcat Hill Wilderness Area, Prince Albert, Pike Lake, and Cypress Hills.

Green Arches - *Anaplectoides prasina* (D.&S.) - s Sask., n to Shoal Lake.

Broad-winged Dart - *Anaplectoides pressus* (Grt.) - s Sask., n to Deschambault Lake (s end).

Stirrup and Spear Dart - *Chersotis juncta* (Grt.) - s Sask., n to Aylsham and Harlan (ne of Lloydminster).

Red-breasted Dart - *Protolampra rufipectus* (Morr.) - s Sask., n to Sturgeon Landing and La Ronge.

Scaley-backed Dart - *Protolampra brunneicollis* (Grt.) - Saskatoon (CNC).

Sigmoid Dart - *Eueretagrotis sigmoides* (Gn.) - Roche Percee and Fort Qu'Appelle.

Two-spot Dart - *Eueretagrotis peratenta inattenta* (Sm) - s Sask., n to Cumberland House.

Phyllophora Dart - *Heptagrotis phyllophora* (Grt.) - Wildcat Hill Wilderness Area.

Catocaline Dart - *Cryptocala acadiensis* (Beth.) - s Sask., n to Pelican Narrows and Hall River (sw of La Ronge).

Pale-edged Dart - *Abagrotis vittifrons* (Grt.) - Eastend (CNC), and Ravenscrag (CNC).

Luteous Dart - *Abagrotis trigona* (Sm.) - Fort Qu'Appelle, Big Muddy, Rockglen, and Killdeer.

Barne's Dart - *Abagrotis barnesi* (Benj.) - Regina.

Greater Red Dart - *Abagrotis alternata* (Grt.) - Oxbow, Glen Ewen, Roche Percee, and Fort Qu'Appelle.

Nanalis Dart - *Abagrotis nanalis* (Grt.) - Eastend (CNC).

Reed's Dart - *Abagrotis reedi* Buckett - Roche Percee, Big Muddy, Fort Qu'Appelle, Moose Jaw, and Saskatchewan Landing.



Satyr Dart *Ufeus satyricus* Grt.

RSM collection, K. Roney

Placid Dart - *Abagrotis placida* (Grt.)
- s Sask., n to Creighton, and La Ronge.

Undescribed species - *Abagrotis* sp.
- s Sask., n to Saskatoon.

Cupid Dart - *Rhynchagrotis cupida* (Grt.) - s Sask., n to Gordon Lake (nw of Pinehouse Lake).

Satyr Dart - *Ufeus satyricus* Grt. - s Sask., n to Aylsham.

Pleated Dart - *Ufeus plicatus* Grt. - Wood Mountain area (reported by Prentice).

Expected Species

Querula Dart - *Protopygia querula* (Dod) - e to Drumheller, Alberta.

Baird's Dart - *Euagrotis bairdii* (Sm.) - e to Dinosaur Park, Alberta.

Great Black Dart - *Eurois nigra* (Sm.) - e to Elkwater, Alberta - should be watched for in Saskatchewan in the Cypress Hills. Reported from

Aylsham, but the specimens appear to be *E. astricta*.

Attentive Dart - *Eueretagrotis attenta* (Grt.) - w to Cartwright, Manitoba.

Dark Dart - *Abagrotis duanca* (Sm.) - e to Malta, Montana.

Bronze Dart - *Pronoctua pyrophiloides* (Harv.) - e to Drumheller, Alberta.

References

DOD, F.H. WOLLEY. 1915. Further notes on Alberta Lepidoptera, with description of a new species. *Can. Ent.* 47:33-42.

HARDWICK, D.F. 1950. A study of the *rosaria* group of the genus *Diarsia* (Lepidoptera: Phalaenidae) with special reference to the structure of the male genitalia. *Can. Ent.* 82:25-33.

MCDUNNOUGH, J. 1932. Notes on Agrotid genera with descriptions of new species. *Can. Ent.* 64:104-112.

SMITH, JOHN B. 1904. New Noctuidae for 1904. *Can. Ent.* 36:149-154.



CHECK LIST OF SASKATCHEWAN MOTHS PART 14: FLOWER MOTHS

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Abbreviations used: s = south; n = north; w = west; e = east; DA = Department of Agriculture collection (Saskatoon); CNC = the only Saskatchewan records that we know of are in the Canadian National Collection in Ottawa. (Unless otherwise indicated, all the species are represented in the collection of the Royal Saskatchewan Museum, formerly called the Saskatchewan Museum of Natural History.) The species are arranged according to the *Check List of the Lepidoptera of America North of Mexico* (R.W. Hodges, 1983).

Flower Moths (Heliothinae) These moths are fairly small (most species are from 16-25 mm in wing expanse). A lot of the species have an angled band or patch inward from the middle of the fore-wing. They can often be found at flowers in the day-

time. Their designs and colours often match the flowers on which they feed. Only a few of the species come readily to lights. The caterpillars feed on flowers, and later on the fruit or capsule. The Corn Worm is a pest on corn, and the Flax Bollworm on flax. This colourful subfamily of moths, however, is a beautiful addition to our fauna.

White-spotted Midget - *Eutricopis nexilis* Morr. - s Sask., n to Bjorkdale and Prince Albert.

Rose Budworm - *Pyrrhia umbra* (Hufn.) - Kamsack, Waskwei River (n of Hudson Bay), Aylsham, Saskatoon, and La Ronge.

Purple-lined Sallow - *Pyrrhia experimens* (Wlk.) - central Sask., s to Fort Qu'Appelle, and n to Cumberland House, and Île-à-la-Crosse.



Silver-banded Gem Schinia cumatilis (Grt.)

RSM collection, K. Roney



Primrose Moth *Schinia florida* (Gn.)

RSM collection, K. Roney

Corn Worm - *Heliothis zea* (Boddie) - s Sask., n to Fort Qu'Appelle, and Saskatoon.

Spotted Buff Gem - *Heliothis phloxiphagus* G. & R. - s Sask., n to Aylsham.

Acesias Buff Gem - *Heliothis acesias* F. & R. - Killdeer.

Flax Bollworm - *Heliothis ononis* (F.) - s Sask., n to Saskatoon, Turtleford, and Frenchman Butte.

Oregon Gem - *Heliothis oregonicus* (Hy. Edw.) - Earl Grey, and Cypress Hills.

Boreal Gem - *Heliothis borealis* (Hamp.) - Davin Lake, Meadow Lake Prov. Park, Cypress Hills, and Rosefield (se of Val Marie).

Spotted Clover Moth - *Protoschinia scutosa* (F.) - Swift Current (DA).

Little Dark Gem - *Schinia villosa* (Grt.) - Lake Alma.

Verna Flower Moth - *Schinia verna* Hardwick - Saskatoon.

Persimilis Flower Moth - *Schinia persimilis* (Grt.) - Cypress Hills (CNC).

Bina Flower Moth - *Schinia bina*

(Gn.) - Bulyea, Buffalo Pound Provincial Park, Melfort, and Saskatoon.

Arcigera Flower Moth - *Schinia arcigera* (Gn.) - Roche Percee, Indian Head, and Moose Jaw.

Jaguar Flower Moth - *Schinia jaguarina* (Gn.) - Weyburn, Val Marie, and Swift Current.

Primrose Moth - *Schinia florida* (Gn.) - s Sask., n to Aylsham, and Harlan (ne of Lloydminster).

Clouded Crimson - *Schinia gaurae* (J.E. Sm.) - Swift Current (CNC), Simmie (CNC), Millerdale (w of Doddsland) (DA).

Glorious Flower Moth - *Schinia gloriosa* (Stkr.) - Moose Jaw.

Mead's Flower Moth - *Schinia meadi* (Grt.) - s Sask., n to Saskatoon.

Acute-lined Flower Moth - *Schinia acutilinea* (Grt.) - sw Sask., n to Saskatoon, and e to Rockglen.

Silver-banded Gem - *Schinia cumatilis* (Grt.) - s Sask., n to Punnichy.

Dark-banded Flower Gem - *Melaporphyria immortua* (Grt.) - Harlan (ne of Lloydminster) (CNC).



Flax Bollworm *Heliothis ononis* (F.)

RSM collection, K. Roney

Expected Species

Olive-winged Gem - *Schinia sueta martini* Hdwk. - ne to the Sweetgrass Hills of Montana - should be watched for in the Cypress Hills, Saskatchewan.

Rose-coloured Flower Moth - *Schinia roseitincta* (Harv.) - n to Aweme, Manitoba.

Gold-edged Gem - *Schinia avemensis* (Dyar) - n to Onah, Aweme and Treesbank, Manitoba.

Thoreau's Flower Moth - *Schinia thoreau* (G. & R.) - nw to Glenlea, and Domain, Manitoba, and Malta, Montana.

Lead Plant Flower Moth - *Schinia lucens* (Morr.) - w to Aweme, Manitoba.

White Flower Moth - *Schinia bimatrix*

(Harv.) - n to Aweme and Treesbank, Manitoba.

References

HARDWICK, D.F. 1958. Taxonomy, life history, and habits of the elliptoid-eyed species of *Schinia* (Lepidoptera: Noctuidae), with notes on the Heliothidinae. *Can. Ent. Suppl.* 6. 116 pp.

———. 1970. A generic revision of the North American Heliothidinae (Lepidoptera: Noctuidae). *Mem. Ent. Soc. Can.* 73. 59 pp.

———. 1983. A new species of *Schinia* (Noctuidae) from Manitoba and Saskatchewan with description of its life history. *J. Lepid. Soc.* 37:18-23.

———. 1994. A review of the *phloxiphaga* group of the genus *Heliothis* (Noctuidae: Heliothentinae) with description of a new species. *J. Lepid. Soc.* 48:106-110.



MAMMALS

SASKATCHEWAN CHRISTMAS MAMMAL COUNTS — 1995

Compiled by Wayne C. Harris, Saskatchewan Environment and Resource Management, 350 Cheadle Street West, Swift Current, SK. S9H 4G3

The number of mammal counts conducted this year dropped from the record 84 last year to 78 in 1995. The number of species recorded was 38, down from last year's 42.

More typical winter weather returned to the province in 1995. Unlike last year's count when a lack of snow made tracking conditions poor in much of the southwestern area, snow cover was generally good throughout the province. No new species were reported in 1995. Rare species included Swift Foxes reported from two counts, both within the areas designated for reestablishment of Swift Fox populations through re-introduction.

The most commonly reported species was White-tailed Deer, followed by Coyote and Red Fox. Most populations appeared stable. One exception was Red Fox that increased from 45% of the counts in 1994 to 64% in 1995. White-tailed Deer were also up from 75% of counts to 84%.

For weather, coverage and participants please refer to the Christmas Bird Count found elsewhere in this issue. Numbers appearing before the count location name in the tables refer to the location of the count on the map included with the bird count. In the tables, a numeral alone shows that the mammals were seen, while a letter preceding the number means

that the number was inferred by the means defined below. A letter alone means that the species was present but estimating the numbers was impossible or that no attempt was made to do so.

T = tracks

L = active lodge or hut

D = dead animal found

d = fresh diggings found

S = smell or odour

H = heard

+ = present during the count period (16 December to 2 January) but not found on count day.

I wish to comment on errors that have appeared in the count compilation over the past two years. In 1993, 17 counts were added to the compilation after it left the editorial hands. Here all 17 counts were areas that had not conducted mammal counts and they were inserted with zero species seen inferring that counts were conducted when they were not. Last year (1994), for the first time ever, we had two counts conducted but zero species recorded; these were deleted, again after proof-reading was complete. Furthermore, the numbers preceding the counts that provided location reference to the map were also changed so they referenced the wrong location. I wish to apologize to the compilers of these counts for these errors.

Table 1-1: SASKATCHEWAN CHRISTMAS MAMMAL COUNTS

SPECIES	LOCATION AND DATE									
	1. ARMIT December 23	2. ASSINIBOIA January 2	3. BANGOR December 29	4. BETHUNE December 26	5. BIGGAR December 19	6. BIRCH HILLS December 21	7. BRIGHTWATER RES. December 17	8. BROADVIEW no count	9. CABRI December 26	10. CANDLE LAKE December 30
MASKED SHREW										
SHREW species			+							
EASTERN COTTONTAIL										
NUTTALL'S COTTONTAIL										
SNOWSHOE HARE			T(2)		T(5)	T				T(50+)
WHITE-TAILED JACK RABBIT		9		2	T(2)	T(1)				
RICHARDSON'S GROUND SQUIRREL										
BLACK-TAILED PRAIRIE DOG										
GREY SQUIRREL										
FOX SQUIRREL										
AMERICAN RED SQUIRREL	11					1+T(2)				10
NORTHERN FLYING SQUIRREL										
AMERICAN BEAVER										
DEER MOOUSE			+							
GAPPER'S RED-BACKED VOLE										
MUSKRAT										
MEADOW VOLE										
VOLE species					T(14)	T(4)				T(2)
MOUSE species	T		+			T(6)				
NORWAY RAT										
HOUSE MOUSE										
AMERICAN PORCUPINE			1			T(4)	1			
COYOTE		2	2	1	5	T(7)			1	
WOLF										T(1)
RED FOX		10			2	T(5)			2	
SWIFT FOX										
RACCOON		2								
FISHER						T(2)				
ERMINE						T(2)				
LONG-TAILED WEASEL			T(1)		1	T(2)				
LEAST WEASEL						T(1)				
WEASEL species	T(1)									
AMERICAN MINK						T(1)				
AMERICAN BADGER										
STRIPED SKUNK										
RIVER OTTER										T(1)
BOBCAT										
MULE DEER		6			2				T	
WHITE-TAILED DEER	T(10)	68	8	18	6	T(4)	4			1+T(100+)
DEER species										
MOOSE	T(2)									T(2)
AMERICAN ELK	T(4)									
PRONGHORN		20								
TOTAL SPECIES	6	7	8	3	8	13	2		3	7

Table 1-2: SASKATCHEWAN CHRISTMAS MAMMAL COUNTS

SPECIES	LOCATION AND DATE									
	11. CHITEK LAKE <i>no count</i>	12. CHRISTOPHER LAKE (N) December 28	13. CLARK'S CROSSING December 16	14. CORONACH December 29	15. CRAVEN December 16	16. CROOKED LAKE December 27	17. CROOKED RIVER December 24	18. DILKE December 24	19. DUVAL December 26	20. EASTEND December 30
MASKED SHREW				T(1)						1
SHREW species										
EASTERN COTTONTAIL										
NUTTALL'S COTTONTAIL				T(1)						
SNOWSHOE HARE		T(1)	3+T(17)			T	T(1)			
WHITE-TAILED JACK RABBIT			1	T(7)		T	T(1)		T(2)	
RICHARDSON'S GROUND SQUIRREL										
BLACK-TAILED PRAIRIE DOG										
GREY SQUIRREL					3					
FOX SQUIRREL										
AMERICAN RED SQUIRREL		8			3	2	3			
NORTHERN FLYING SQUIRREL										
AMERICAN BEAVER		L(1)				3				
DEER MOUSE				T(2)						
GAPPER'S RED-BACKED VOLE										
MUSKRAT		D(1)				3				
MEADOW VOLE						T				
VOLE species			3	T(2)						
MOUSE species		T(4)	T(8)			T			T(4)	
NORWAY RAT									T(1)	
HOUSE MOUSE										
AMERICAN PORCUPINE			T(1)						T(1)	2
COYOTE			3+T(6)	3	3	1	T(1)		H(2)	
WOLF		+								
RED FOX		T(1)	5+T(1)	T(2)	1	T			1	
SWIFT FOX									T(1)	
RACCOON										
FISHER										
ERMINE										
LONG-TAILED WEASEL									T(2)	
LEAST WEASEL		1								
WEASEL species			1+T(1)							
AMERICAN MINK										
AMERICAN BADGER										
STRIPED SKUNK									T(3)	
RIVER OTTER										
BOBCAT										
MULE DEER			10	9	9					8
WHITE-TAILED DEER		T(2)	14	2	32	5	6	10	13	22
DEER species			T(10)						T(14)	
MOOSE										
AMERICAN ELK										
PRONGHORN										
TOTAL SPECIES		9	11	9	6	10	5	1	11	3

Table 1-3: SASKATCHEWAN CHRISTMAS MAMMAL COUNTS

SPECIES	LOCATION AND DATE									
	21. EMMA LAKE January 1	22. ENDEAVOUR December 25	23. ESTEVAN December 29	24. FENTON December 28	25. FIFE LAKE January 2	26. FORT QU'APPELLE December 16	27. FORT WALSH December 16	28. GARDINER DAM December 18	29. GOOD SPIRIT LAKE December 22	30. GOVENLOCK December 17
MASKED SHREW										
SHREW species									T	
EASTERN COTTONTAIL			T(14)							
NUTTALL'S COTTONTAIL							4	2		4
SNOWSHOE HARE	T					5	T(3)	T(3)	T(25)	
WHITE-TAILED JACK RABBIT		1				+	T(2)	T(13)	T(5)	T(10)
RICHARDSON'S GROUND SQUIRREL										
BLACK-TAILED PRAIRIE DOG										
GREY SQUIRREL										
FOX SQUIRREL			16							
AMERICAN RED SQUIRREL	4	2		3		21	38		5	
NORTHERN FLYING SQUIRREL									2	
AMERICAN BEAVER									L(1)	
DEER MOUSE						1			T(2)	
GAPPER'S RED-BACKED VOLE									2	
MUSKRAT						+			L(7)	
MEADOW VOLE										
VOLE species			T(16)				T(8)	T(7)		T(2)
MOUSE species							T(5)	T(5)		T(10)
NORWAY RAT										
HOUSE MOUSE										
AMERICAN PORCUPINE		T(1)				+	3	2	T(6)	1
COYOTE		1	1	1	5	3	9	5	T(7)	13
WOLF										
RED FOX			T(1)			4	T(1)	1		4
SWIFT FOX										T(1)
RACCOON						+				
FISHER										
ERMINE		T(1)							T(2)	
LONG-TAILED WEASEL	1					+				
LEAST WEASEL										
WEASEL species							T(2)	T(2)		
AMERICAN MINK						2			T(1)	
AMERICAN BADGER							1			d(1)
STRIPED SKUNK										
RIVER OTTER										
BOBCAT			T(1)							
MULE DEER			6			+	48	143		34
WHITE-TAILED DEER		T(8)	15			4	62	71	12	21
DEER species										
MOOSE							1		+	
AMERICAN ELK							67			
PRONGHORN							26			
TOTAL SPECIES	3	6	8	2	1	13	16	11	15	11

Table 1-4: SASKATCHEWAN CHRISTMAS MAMMAL COUNTS

SPECIES	LOCATION AND DATE									
	31. GRASSLANDS N.P. December 28	32. GRASSLANDS N.P. (NW) December 19	33. HEPBURN <i>no count</i>	34. HORSESHOE BEND December 30	35. HUMBOLDT December 26	36. INDIAN HEAD December 20	37. KAMSACK January 1	38. KELVINGTON December 28	39. KENASTON December 17	40. KILWINNING December 22
MASKED SHREW										
SHREW species					+			T(1)		
EASTERN COTTONTAIL										
NUTTALL'S COTTONTAIL	1	2								
SNOWSHOE HARE					T(10)	1	22	T(24)	T(25)	
WHITE-TAILED JACK RABBIT	T(2)				T(3)			T(6)	T(8)	
RICHARDSON'S GROUND SQUIRREL										
BLACK-TAILED PRAIRIE DOG	1									
GREY SQUIRREL										
FOX SQUIRREL										
AMERICAN RED SQUIRREL					+	16	8			3
NORTHERN FLYING SQUIRREL										
AMERICAN BEAVER										
DEER MOUSE										
GAPPER'S RED-BACKED VOLE										
MUSKRAT					D(1)					
MEADOW VOLE										
VOLE species										
MOUSE species	T(20)			T(5)				T(21)	T	
NORWAY RAT										
HOUSE MOUSE	14									
AMERICAN PORCUPINE	1				T(2)		1	D(1)+T(6)		
COYOTE		4			T(6)	1	H(1)	T(4)	T(2)	1
WOLF										
RED FOX				1	T(3)		3	T(2)	1	T
SWIFT FOX	1									
RACCOON								+		
FISHER										
ERMINE										
LONG-TAILED WEASEL					+		1			
LEAST WEASEL				T(1)					T(3)	
WEASEL species	T(1)							T(6)		
AMERICAN MINK					+					
AMERICAN BADGER	d(1)									
STRIPED SKUNK						1				
RIVER OTTER						1				
BOBCAT										
MULE DEER	28								2	
WHITE-TAILED DEER	7	6		5	T(20)	8	133	T(40)	21	T(100+)
DEER species										
MOOSE							7			
AMERICAN ELK							25			
PRONGHORN	15									
TOTAL SPECIES	12	3		4	11	6	9	10	8	4

Table 1-5: SASKATCHEWAN CHRISTMAS MAMMAL COUNTS

SPECIES	LOCATION AND DATE									
	41. KINDERSLEY January 2	42. KINLOCH December 24	43. KUTAWAGAN LAKE December 31	44. LARONGE December 26	45. LAST MOUNTAIN L. N.W.A January 2	46. LEADER (North) December 29	47. LEADER (South) December 31	48. LIVELONG <i>no count</i>	49. LOVE-TORCH RIVER December 30	50. LUSELAND January 2
MASKED SHREW										
SHREW species										
EASTERN COTTONTAIL										
NUTTALL'S COTTONTAIL						2				
SNOWSHOE HARE		T(20)	T(1)	T(7)						
WHITE-TAILED JACK RABBIT	5		T(2)		T	2				2
RICHARDSON'S GROUND SQUIRREL										
BLACK-TAILED PRAIRIE DOG										
GREY SQUIRREL										
FOX SQUIRREL										
AMERICAN RED SQUIRREL		3		3					4	
NORTHERN FLYING SQUIRREL										
AMERICAN BEAVER		L(3)			L(1)					
DEER MOUSE										2
GAPPER'S RED-BACKED VOLE										
MUSKRAT		L(3)	L(20)							
MEADOW VOLE										
VOLE species				T(6)	T					
MOUSE species			T(10)		T	4				+
NORWAY RAT										
HOUSE MOUSE										
AMERICAN PORCUPINE		1	1			2	1		1	1
COYOTE		2	2		T	5			3	+
WOLF										
RED FOX			1	T(2)	T				2	+
SWIFT FOX										
RACCOON										
FISHER										
ERMINE				T(4)						
LONG-TAILED WEASEL					T(1)					
LEAST WEASEL		T(2)								
WEASEL species			T(2)						T(1)	
AMERICAN MINK				T(2)						
AMERICAN BADGER			d(1)							
STRIPED SKUNK										
RIVER OTTER										
BOBCAT										
MULE DEER	17					24	25			
WHITE-TAILED DEER	T(6)	T(18)	13		60	38			24	
DEER species	23									+
MOOSE		T(2)								
AMERICAN ELK		31								
PRONGHORN	4					43				
TOTAL SPECIES	5	10	10	6	8	8	2		6	6

Table 1-6: SASKATCHEWAN CHRISTMAS MAMMAL COUNTS

SPECIES	LOCATION AND DATE									
	51. MACDOWALL December 31	52. MEADOW LAKE December 26	53. MELFORT January 1	54. MELFORT (SE) December 26	55. MELVILLE December 24	56. MISSINUIPE no count	57. MOOSE JAW December 26	58. MOOSE MOUNTAIN December 28	59. NIPAWIN no count	60. PADDOCKWOOD-CHR. L. December 26
MASKED SHREW										
SHREW species										
EASTERN COTTONTAIL										
NUTTALL'S COTTONTAIL							2			
SNOWSHOE HARE		1	12							
WHITE-TAILED JACK RABBIT	+		2				5			
RICHARDSON'S GROUND SQUIRREL										
BLACK-TAILED PRAIRIE DOG										
GREY SQUIRREL										
FOX SQUIRREL							9			
AMERICAN RED SQUIRREL	2	5						19		2
NORTHERN FLYING SQUIRREL										
AMERICAN BEAVER							1			
DEER MOUSE										
GAPPER'S RED-BACKED VOLE										
MUSKRAT					L(3)					
MEADOW VOLE										
VOLE species										
MOUSE species	T				T(2)					
NORWAY RAT										
HOUSE MOUSE										
AMERICAN PORCUPINE		3		1	1			3		
COYOTE	T(2)	1	2	12	1					1
WOLF										
RED FOX	T(7)		2	3	1		2	2		
SWIFT FOX										
RACCOON	T(1)				1					
FISHER										
ERMINE										
LONG-TAILED WEASEL										
LEAST WEASEL	T(12)									
WEASEL species			T(1)				T(1)			
AMERICAN MINK	T(2)						T(1)			
AMERICAN BADGER							d(3)			
STRIPED SKUNK										
RIVER OTTER										
BOBCAT										
MULE DEER										
WHITE-TAILED DEER	T(4)		4		1+T(10)		35	24		
DEER species										
MOOSE								1		
AMERICAN ELK										
PRONGHORN										
TOTAL SPECIES	9	4	6	3	7		9	5		2

Table 1-7: SASKATCHEWAN CHRISTMAS MAMMAL COUNTS

SPECIES	LOCATION AND DATE									
	61. PIKE LAKE December 30	62. PRINCE ALBERT December 17	63. PRINCE ALBERT N.P. December 30	64. QU'APPELLE VALLEY DAM December 17	65. RAYMORE December 25	66. REGINA December 26	67. ROCKGLEN-BORDERLAND December 16	68. ROUND LAKE (QU'APPELLE V.) December 17	69. ROUND LAKE (PRINCE ALBERT) January 2	70. SASK. LAND NG (P.P.) December 27
MASKED SHREW					+					
SHREW species										
EASTERN COTTONTAIL										
NUTTALL'S COTTONTAIL				4			+			1
SNOWSHOE HARE		2+T(6)	T(16)	1+T(12)	1+T(20)	2		3		
WHITE-TAILED JACK RABBIT		T			T(2)	6	1			
RICHARDSON'S GROUND SQUIRREL										
BLACK-TAILED PRAIRIE DOG										
GREY SQUIRREL										
FOX SQUIRREL						T(1)				
AMERICAN RED SQUIRREL	9	T	59+T(35)		T(1)	12		9	2	
NORTHERN FLYING SQUIRREL										
AMERICAN BEAVER			T(1)		L(1)			1		
DEER MOUSE			T(1)		4	T				
GAPPER'S RED-BACKED VOLE										
MUSKRAT					L(14)					
MEADOW VOLE										
VOLE species		T	T(1)			T				
MOUSE species	1							T(1)		T
NORWAY RAT					T(1)					
HOUSE MOUSE					+					
AMERICAN PORCUPINE	2	1			1	T(1)	1	2		
COYOTE	H(15)	1		7	3	3	5	2		11
WOLF			T(20)							
RED FOX	1	T(2)	5+T(25)		T(1)	2		1		
SWIFT FOX										
RACCOON										
FISHER			1							
ERMINE		1								
LONG-TAILED WEASEL	1				T(1)			T(1)		
LEAST WEASEL		T			T(1)					
WEASEL species			T(2)		T(3)	T				
AMERICAN MINK						T(1)		1		
AMERICAN BADGER				1	+		+	1		
STRIPED SKUNK	S(1)				+		+			
RIVER OTTER			T(13)							
BOBCAT										
MULE DEER			2	40		16	19			36
WHITE-TAILED DEER		4+T(10)		50	7	59	219	46		89
DEER species	6		T(26)							
MOOSE			T(3)							
AMERICAN ELK			T(12)							
PRONGHORN										59
TOTAL SPECIES	8	10	14	6	18	13	8	11	1	6

Table 1-8: SASKATCHEWAN CHRISTMAS MAMMAL COUNTS

SPECIES	LOCATION AND DATE									
	71. SASKATOON December 26	72. SCOTT December 27	73. SHAMROCK December 30	74. SHAUNAVON December 26	75. SKULL CREEK December 26	76. SNOWDEN December 29	77. SPALDING December 26	78. SPINNEY HILL December 29	79. SQUAW RAPIDS December 22	80. SWIFT CURRENT December 17
MASKED SHREW					1					
SHREW species	T(1)						T			/
EASTERN COTTONTAIL										
NUTTALL'S COTTONTAIL					27+T(390)					5+T(3)
SNOWSHOE HARE	2+T(21)	T(7)			10	T(15)	T		T(5)	T(5)
WHITE-TAILED JACK RABBIT	6	T(5)	2	2	10+T(31)	+		T		1
RICHARDSON'S GROUND SQUIRREL					1					
BLACK-TAILED PRAIRIE DOG										
GREY SQUIRREL							T			5
FOX SQUIRREL										
AMERICAN RED SQUIRREL	2				4	42		2	24	
NORTHERN FLYING SQUIRREL										
AMERICAN BEAVER	T(1)									
DEER MOUSE	T(11)				T(100+)					
GAPPER'S RED-BACKED VOLE										
MUSKRAT	1						L(9)			
MEADOW VOLE					T(100+)			T		
VOLE species	T(2)	T(2)					T		T(10)	
MOUSE species						T(7)				
NORWAY RAT						T(1)				
HOUSE MOUSE										
AMERICAN PORCUPINE	1	T(1)			2	+		2		
COYOTE	8+T(3)	1		1	19+T(65)	2	T	2	1	4
WOLF									T(3)	
RED FOX	1+T(3)	T(1)	T	1	T(1)	T(3)	T		1	1
SWIFT FOX										
RACCOON					T(2)					
FISHER										
ERMINE										
LONG-TAILED WEASEL					4+T(6)	+				
LEAST WEASEL	T(1)				T(2)	1				
WEASEL species	T(1)	T(2)					T		T(2)	
AMERICAN MINK					T(3)					
AMERICAN BADGER										
STRIPED SKUNK					4		1			
RIVER OTTER										
BOBCAT										
MULE DEER	15+T(1)				16					52
WHITE-TAILED DEER	29+T(11)	T(5)			177	6	T	6	T(3)	36
DEER species	T(13)		T							
MOOSE						+				
AMERICAN ELK						+			T(10)	
PRONGHORN					40					
TOTAL SPECIES	14	8	3	3	19	13	10	6	9	8

Table 1-9: SASKATCHEWAN CHRISTMAS MAMMAL COUNTS

SPECIES	LOCATION AND DATE									
	81. TISDALE <i>no count</i>	82. TURTLE LAKE December 27	83. WEYBURN December 16	84. WHITE BEAR December 26	85. WHITEWOOD December 16	86. YORKTON December 30		Total Number of Counts		
MASKED SHREW								3		
SHREW species								6		
EASTERN COTTONTAIL								1		
NUTTALL'S COTTONTAIL								13		
SNOWSHOE HARE		T(5)			4			38		
WHITE-TAILED JACK RABBIT			3	1	2			42		
RICHARDSON'S GROUND SQUIRREL								1		
BLACK-TAILED PRAIRIE DOG								1		
GREY SQUIRREL					1			4		
FOX SQUIRREL			4					4		
AMERICAN RED SQUIRREL		1			4			38		
NORTHERN FLYING SQUIRREL								1		
AMERICAN BEAVER								10		
DEER MOUSE		T(1)			1			12		
GAPPER'S RED-BACKED VOLE								1		
MUSKRAT					L(5)			12		
MEADOW VOLE								3		
VOLE species					T(1)			19		
MOUSE species					T(1)			25		
NORWAY RAT								3		
HOUSE MOUSE								2		
AMERICAN PORCUPINE				3	+			39		
COYOTE		1	3	12	9			61		
WOLF								4		
RED FOX		1	3		1			50		
SWIFT FOX								2		
RACCOON					+			7		
FISHER								2		
ERMINE					+			6		
LONG-TAILED WEASEL		T(1)						15		
LEAST WEASEL								10		
WEASEL species			T(1)		T(1)			19		
AMERICAN MINK								10		
AMERICAN BADGER								9		
STRIPED SKUNK					S(1)			8		
RIVER OTTER								3		
BOBCAT								1		
MULE DEER			17	173				27		
WHITE-TAILED DEER		T(7)	43		23	7		63		
DEER species								8		
MOOSE								9		
AMERICAN ELK								7		
PRONGHORN			+					8		
TOTAL SPECIES		7	8	4	16	1				

A PROBABLE CASE OF PASSIVE ANTING BY AN EASTERN COTTONTAIL

RUDOLF F. KOES, Rossmere Crescent, Winnipeg, MB. R2K 0G1

Anting is a rather frequently observed behaviour in birds. It can take two forms, active and passive. In active anting, birds rub ants or a variety of objects through their plumage. Passive anting involves a bird disturbing an ant nest and subsequently letting ants crawl over its plumage. Presumably, this behaviour provides some kind of pleasurable experience for the bird, and may have some biological benefit.^{1,3}

Anting in mammals has rarely been reported. Hauser² described numerous observations of young Gray Squirrels displacing birds from dust-bathing or anting locations in her North Carolina yard. The squirrels proceeded to dig and roll around in the areas, followed by wild tumbling, biting, sprawling, and more of the same. Chisholm¹ reported house cats rubbing ants into their fur or rolling in ant colony waste discarded by an entomologist. As was typical of birds, the mammals appeared to enjoy these activities.

On 12 August 1995, while my wife and I were seated in our backyard, we observed a probable case of anting by an Eastern Cottontail. Our yard, which is located in a suburban area of Winnipeg, is well treed with an extensive lawn beneath. Cottontails are resident in the area and on this afternoon our attention was drawn to a nearly full-grown one in a far corner of the yard, about 15 m away. The rabbit stretched itself out on its belly on a patch of bare earth, where it remained motionless for a

moment. Then it vigorously rolled around several times, stretched again and scratched itself, jumped up and dashed to a small spruce nearby. Beneath the spruce it repeated the procedure, after which it hopped out of the yard. Although the whole episode lasted probably no more than half a minute, we were both struck by the intensity of the comical actions.

Upon investigating the bare patch, which I knew was the site of an ant colony, I noted increased activity, with numerous ants scurrying around. The area under the spruce had no ants; it may have been simply a spot for the rabbit to linger and enjoy the aftereffects of its actions.

No further observations were made during the remainder of the summer and fall, but the behaviour was so similar to that described for squirrels by Hauser,² that I have little doubt the rabbit was anting.

Acknowledgements I would like to thank Robert Nero for encouraging me to write this note, for providing reference material, and for his helpful comments on a draft of the manuscript.

1. DENNIS, J.V. 1981. Beyond the bird feeder. A.A. Knopf, Inc., New York. 201 pp.
2. HAUSER, D.C. 1964. Anting by Gray Squirrels. *Jour. of Mammol.* 45:136-138.
3. NERO, R.W. Common Grackles anting with "Weed and Feed" lawn chemicals. *Blue Jay* 54(1): 31-34

NOTES & LETTERS

A MULTISPECIES INVENTORY IN THE PRAIRIE PARKLAND OF EAST-CENTRAL SASKATCHEWAN

In the spring and summer of 1994 the staff of Ducks Unlimited Canada (DU), Yorkton and volunteers from the Yorkton Natural History Society conducted plant and animal surveys on a local North American Waterfowl Management Plan (NAWMP) project. The purpose of these surveys was to identify multispecies use of a DU/NAWMP Prairie Care program

area while promoting interagency co-operation.

DU has secured a 960 acre block of wildlife habitat, the Slywka, Docherty, Morrison and MacDonald projects, within a larger area called the Barvas Marsh complex. This complex encompasses approximately 2,560 acres and is located 26 km east of Yorkton along Highway 10 (Figure 1). The Barvas Marsh complex is a mosaic of native grass, forbs, shrub and tree species interspersed with a range of wetland

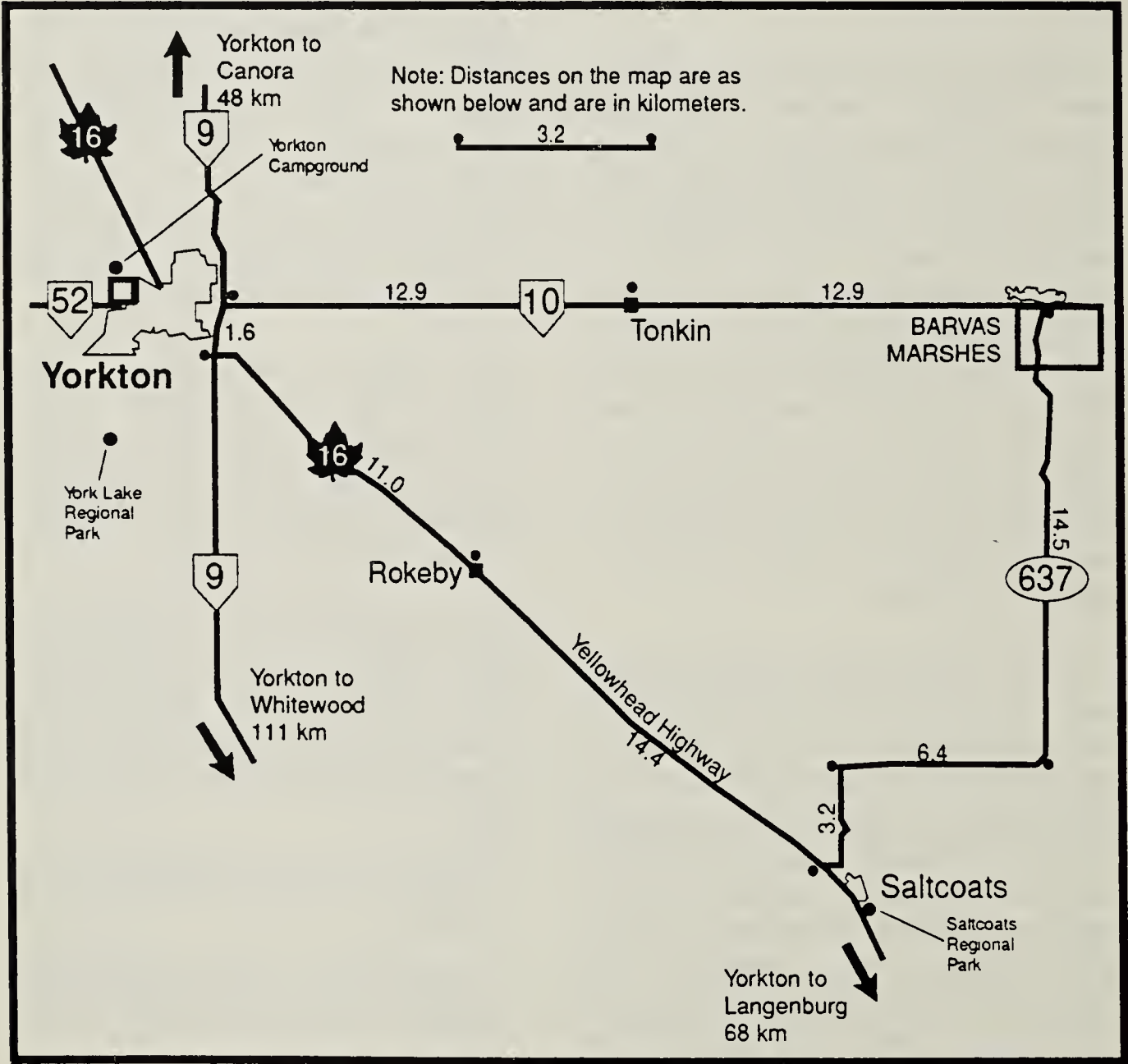


Figure 1. Location of Barvas Marsh Complex



An aerial view of the Barvas Marsh complex

Rob Kirkness

types. This area is unique because much of it has been left in an idle state for over 20 years. The Barvas area is a rare and large remnant of native prairie parkland habitat within a landscape of intensive cultivation.

In the spring of 1994, DU staff and Nature Saskatchewan members designed a field inventory plan to gather baseline data on the diversity of plant and animal life at Barvas. Surveys for 1994 focussed on the development of an avian checklist and a plant checklist. Volunteer birders surveyed the DU properties three times: once in mid-May, again in late May and once in mid-June. All birds seen or heard between 5:30 a.m. and 9:30 a.m. were recorded. A call response survey for secretive waterbirds was conducted after midnight, on three separate occasions in June. This survey revealed a population of Yellow and Virginia Rails not

previously identified. These were simple and extremely successful techniques for obtaining a list of bird species using the area. Baseline checklists include 72 species of birds to date. The majority of the bird species identified were residents. A plant species checklist was developed and volunteers made incidental observations throughout the summer. Ninety flowering plant species, 12 grass species, two tree species and five shrub species were identified. Rare prairie wildflowers such as the Large Yellow Lady's Slipper (*Cypripedium calceolus*) were not uncommon at the Barvas site. Participants also incidentally identified nine mammalian species and one species of reptile.

During the spring and summer of 1995 volunteers conducted several walkabouts on the complex and identified plant and animal species



The secretive Virginia Rail

Guy C. Fontaine

on the checklist. An amphibian call survey was also conducted and two frog and one toad species were identified. The inventory will be expanded in 1996 to include further amphibian, small mammal and insect surveys. Similar inventories are planned for other DU/NAWMP projects.

The accumulation of baseline data is critical to understanding and quantifying the biodiversity of the prairie environment. This information will also help to assess the impact of NAWMP programs on the prairie land base and enable resource managers to make better informed decisions. Baseline inventories are cost effective when the talents of volunteers from different groups are used. DU would like to thank all the people who participated in the surveys for their enthusiasm and generous donations of time and patience.

Throughout 1995 the Barvas

Marsh complex and the volunteer-run surveys piqued the interest of the media and the conservation community. An informative poster on the multispecies inventory was presented by DU and Nature Saskatchewan at the 4th Prairie Conservation and Endangered Species Workshop in Lethbridge, AB in February 1995. In June 1995 the area was showcased to DU members from across Canada and the U.S. who were participating in a workshop held in Saskatchewan. Two Saskatchewan newspapers also published detailed stories on the Barvas area. The Yorkton Natural History Society and DU-Yorkton were awarded the 1995 Nature Saskatchewan Annual Conservation Award. The complex has recently been designated a wildlife viewing area on a self-guided nature tour designed by DU's Nature Watch program (Tour #6 - Yorkton East, SK). The interest in natural areas such as the Barvas Marsh complex

is growing and it is hoped that the marsh can be used to educate and inform people about the importance of such sites and the need for their conservation.

Further information about the Barvas area and the multispecies inventory can be obtained from DU-Yorkton. All inquiries are welcome.

- *Mark Kornder*, Ducks Unlimited Canada, 4-17 Fifth Avenue North, Yorkton, SK. S3N 0Y9 and *Ken Belcher*, 1121 Seventh Street East, Saskatoon, SK. S7H 0Y9

A SECOND BREEDING RECORD OF RED CROSSBILL IN REGINA

On 26 September 1989 at approximately 10:45 a.m. Elmer L. Fox and I watched a pair of Red Crossbills (*Loxia curvirostra*) feeding a fledgling in a tall spruce west of the Bandshell near the Albert Street Memorial Bridge in Regina. This observation represents a second breeding record for Regina. In *Birds of Regina* (Rev. 1980-SNHS Special Publication No. 12), M. Belcher reports that Dr. G.F. Ledingham observed a similar incident on 30 May 1976, citing it as a breeding record.

- *Frank H. Brazier*, 2657 Cameron Street, Regina, SK. S4T 2W5



The rare Large Yellow Lady's Slipper

Ken Belcher

IN MEMORIAM

ROSEMARY NEMETH 1955-1995

C. STUART HOUSTON, 863 University Drive, Saskatoon, SK. S7N 0J8

Rosemary Nemeth was born on 28 September 1955 at Melfort, Saskatchewan. She attended elementary and high school in Yellow Creek. As one of her teachers, Ted Magis, said at her funeral eulogy, "her kind smile, friendly laugh and warm-hearted personality" made her a favourite with both students and teachers, and foretold the "happy, loving, laughing, energetic, radiant person" that she became. After one year of biology at the University of Saskatchewan and completion of the two-year Wildlife Resources program at the Kelsey Institute in Saskatoon, she became Saskatchewan's first female conservation officer. Her job was challenging, many times enforcing the law out on a stormy lake or on a snowy trail. Rose served at Lower Fishing Lakes, Creighton, La Ronge, Beauval, and Dore Lake, then managed fire control and trained fire control personnel, based at Weyakwin. She found nests of Barred Owl and Bald Eagle, which I visited for banding. A writer, she will be remembered for her article about "Chappy — a Legend of Northern Saskatchewan," for the *Western Sportsman* and a booklet "Over the Narrow Hills — the Story of the Fishing Lakes District." A return to University gained her a B.Sc. in biology in 1985.

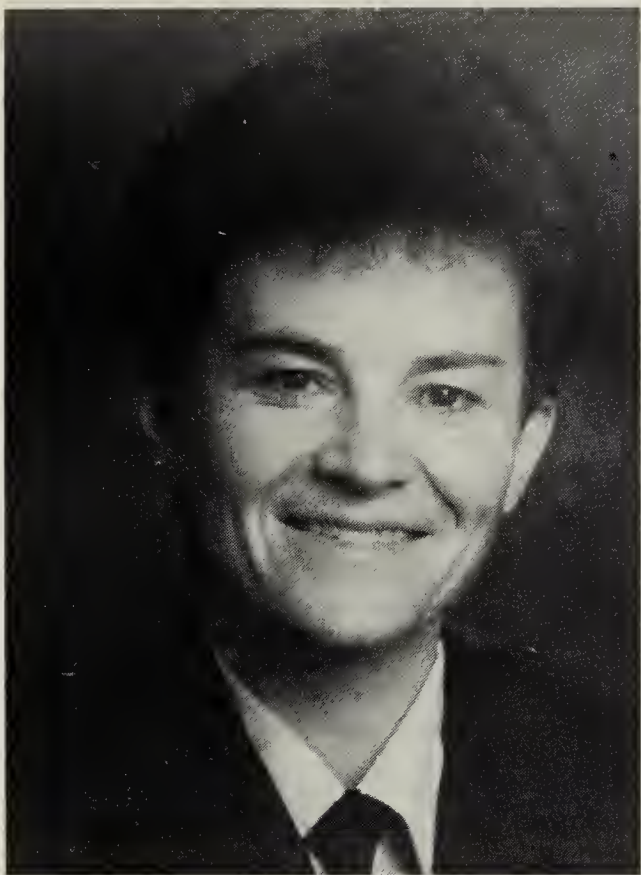
For her last ten years, Rose lived in La Ronge, where she assisted Jacques Proulx in his expediting business, meanwhile helping to establish the Conservation Officer's Museum on Highway 2 just north of Prince Albert.

Rose was important to Saskatche-

wan naturalists for her studies around her home farm at Yellow Creek. I explained this in an article in the regular Saskatoon Nature Society column in the *Saskatoon Sun*, on 28 January 1996 — "Why have I banded so many Great Horned Owls at Yellow Creek?" As good fortune would have it, the right people were in the right place at the right time. Bryan Isinger taught grades 4 to 7 in the six-classroom school at Yellow Creek for five years, 1963-68. And Yellow Creek had the Nemeth family. In 1966 Bryan learned that I was looking for owl nests to band the young. That year and the next two as well, the Yellow Creek school children looked for owl nests. Each year it was Rosemary Nemeth who found the most owl nests. Each year Rose wrote a short article for the Junior Naturalists' section in the *Blue Jay* magazine, the quarterly journal of the Saskatchewan Natural History Society.

That year we went to three owl nests at Yellow Creek. Two had three young and one had two young. Food brought by the parent owls and still uneaten by the young, included four northern pocket gophers (often called "moles" because of the mounds they dig in pastures); another nest had three pocket gophers and an adult Long-eared Owl as food. The third nest contained two coots and a barn rat.

In 1968 Rose wrote to the *Blue Jay* about another three nests that she had found and four nests her classmates had found. Two of



Rosemary Nemeth

Rose's nests had four young each and the other had three young. Snowshoe hares were building in numbers, so it was not surprising that both young and full-size hares were found as food in the nests, as well as one coot and a Franklin's ground squirrel (bush gopher).

Rose also wrote to the *Blue Jay* about other interesting nature observations, including blueberries, a nature hike, a lost gosling, a weasel, and a dog with over 600 porcupine quills. Under encouragement from Isinger, some classmates contributed notes as well, but it was Rose who was singled out for special commendation by Joyce Deutscher, editor of the active junior section.

In 1969, though Mr. Isinger had moved to the city, Rose and her Dad continued their interest and found a little adult Saw-whet Owl nesting in a hollow tree. That year Rose had five horned owl nests, one with four young. In 1970, at the peak of the snowshoe hare cycle, productivity was the highest on record: 25 young in 8 nests.

When in high school, Rose continued to find owl nests and kept on writing, but now to the adult Letters section of the *Blue Jay*. In 1971, she told of finding only 19 owlets in her 12 nests. Hare numbers had just begun to drop, so plenty of owl pairs were present, but productivity was already falling below the long-term average of 2.2 young per nest. In 1972, things were worse, with only 11 young in 8 nests.

The team of Rose and Leslie Nemeth has become one of the world's top nest finders, with a grand total of 152 successful nests with young banded. It was easy for me to find helpers to go along on the Yellow Creek weekend because Liz Nemeth, Rose's mom, would serve a delicious meal to the hungry tree-climbers from produce grown on the Nemeth farm.

The good news is that Rose was able to turn her skills and her interests into a career. She became Saskatchewan's first female conservation officer.

The bad news is that Rose's life ended, prematurely, in a head-on collision on 17 December 1995, half-way between Prince Albert and Rose's recent home of La Ronge. She died the next morning in Royal University Hospital, Saskatoon. Naturalists will remember the "glory days" of the Junior Naturalists' section, for there hasn't been anything approaching the participation level that Joyce Deutscher inspired. Nor have there been teachers as effective as Isinger in encouraging student nature contributions. Nor students with the enthusiasm and drive of Rosemary Nemeth. Rose will be sorely missed by all who knew her.

**THE YEAR IS A CIRCLE:
A CELEBRATION OF HENRY
DAVID THOREAU**

VICTOR C. FRIESEN. 1995. Natural Heritage/Natural History Inc., Toronto. 142 pp. 173 mm x 183 mm, soft cover, \$24.95.

"Good things come in small packages," they say, and this attractive coffee table book in miniature is a fine example. The glossy, fold-in, soft covers, each adorned with colour photographs, enclose a wealth of imagery, both visual and verbal.

While the book is liberally sprinkled with quotations from the works of Thoreau, the eighteen poems and seventy-four photographs in this tribute are not intended "to describe a specific incident in his life," or "stem from a specific passage in his writings," but are inspired, rather, by what most moved the great author of *Walden* fame himself: the sensuous, wonderful world of nature.

The rich imagery of the poems evoke sensations and memories which many readers of this journal will know and treasure — perhaps have already known and treasured, since some of the poems have previously been published in *Blue Jay*. As I read them, I found myself transported again and again in memory and reflection to experiences deeply savoured in times past. The circle of the year, and of the day (for as Thoreau put it "the day is an epitome of the year"), become magically real as the poet speaks of "the chill/Gray ghost of dawn"; of "horizons shimmering in heat"; of "trees in ageless amber"; of "crunching the powder-snow/With swinging steps"; of a "feline wind — playing, icy-clawed, with tufts of grass"; of "April's modest green"; of "seven tundra swans — crying a white triumph from the sky"; and of "treading moon-washed roads made smooth with night's/Denial of clear vision."

Friesen's poetic flair finds double ex-

pression through the shutter of his camera. The photographs in the volume have captions from the poems accompanying them, but many need no such poetic affirmation. They speak eloquently for themselves: a lone shorebird wading at the waters edge in the first cool light of dawn; a diagonal tangle of multihued grasses and wildflowers; an anvil cloud hovering dramatically over open sea; a mosaic of richly blended autumn leaves; a full moon hanging stunningly in deep blue light over the crest of the gentle, snow-clad prairie hills.

The book is beautifully symmetrical in format. The introduction, preceded by the above-mentioned quote of Thoreau about the day being the epitome of the year, alludes to the smaller of the two circles. It describes Walden Pond as being "fashioned from/The dawn into day" and then eventually, as evening arrives, becoming "a breath of burnished fire/With scattered flames against the sky." The four main sections of the book trace the circle of the seasons, beginning with summer. Each seasonal section, in turn, has four subdivisions, and each of these subdivisions, introduced by the appropriate quotation from the works of Thoreau, has a poem and three or four pictures. The first subdivision, in each case, celebrates the season as a whole. The remaining three feature specific months of that season. The Conclusion then returns to the theme of the smaller circle of the day and is preceded by another quotation from Thoreau's *Walden* which echoes the one in the introduction, thus bringing the volume as a whole full circle.

The journey through *The Year is a Circle*, taken several times, was for me a lovely way to celebrate the first month of the year.

- Reviewed by *Garth Nelson*, 529 Dalhousie Crescent, Saskatoon, SK. S7H 3S5

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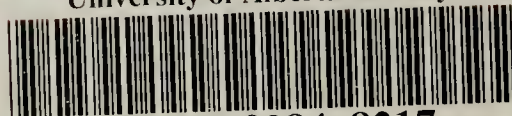
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